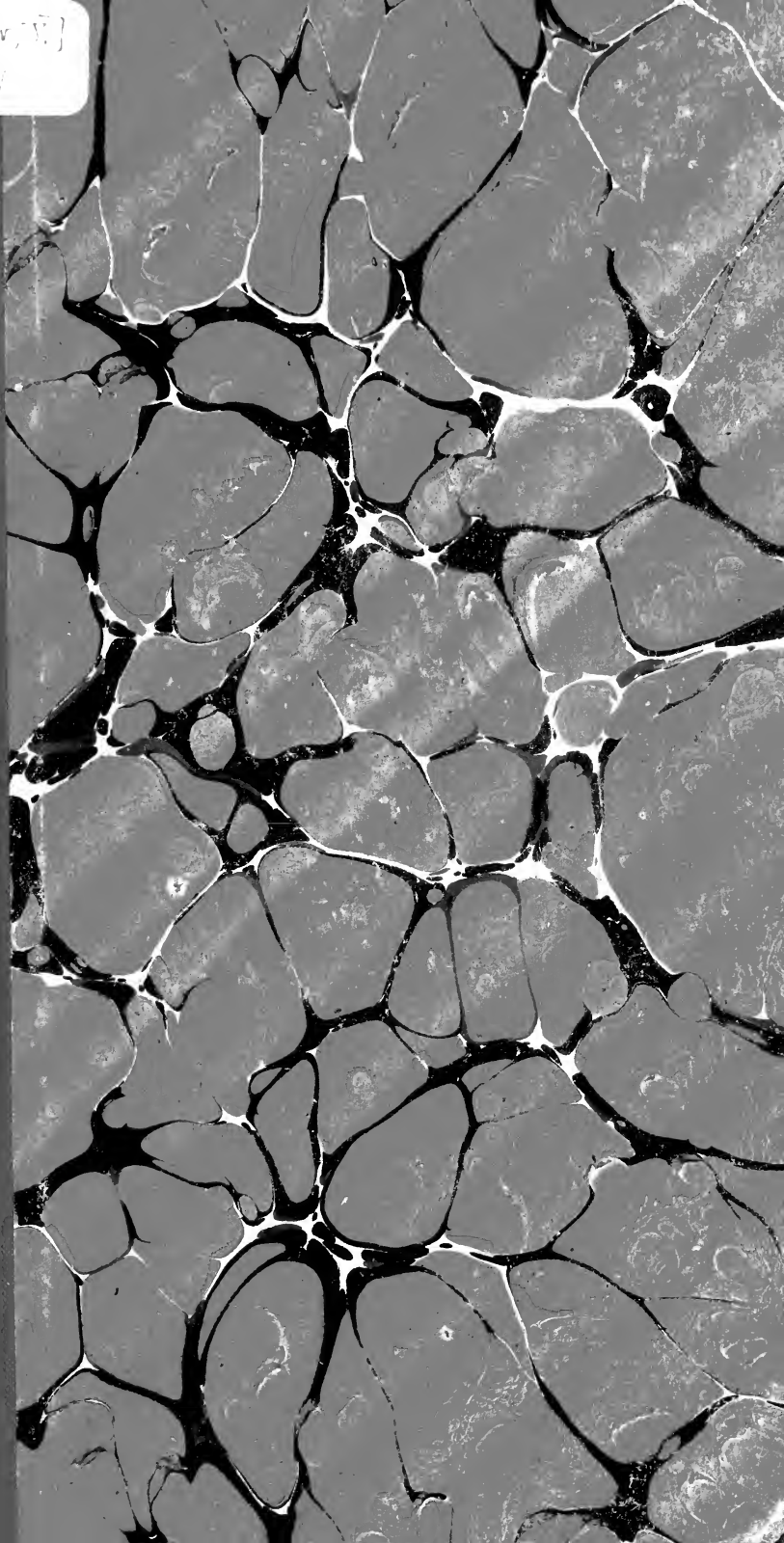


Butler. The History, Work and Aims of the
Michigan Audubon Society. 1907

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MICHIGAN
AUDUBON
SOCIETY

The History, Work and Aims

OF THE

Michigan Audubon Society

BY

JEFFERSON BUTLER,

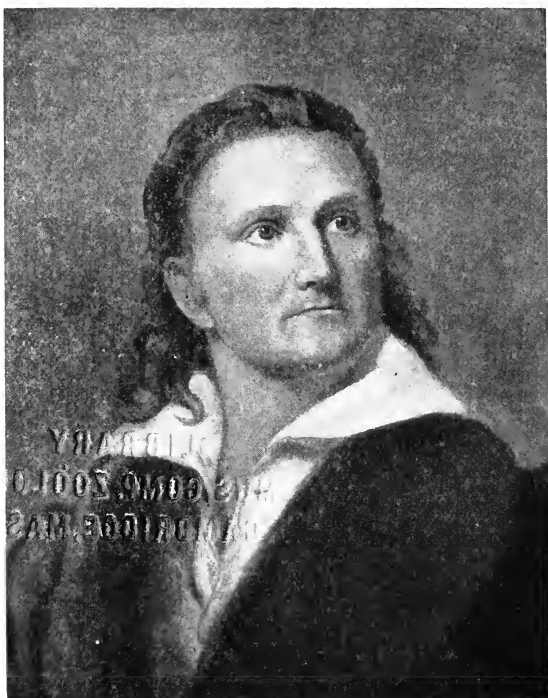
Secretary and Treasurer

DETROIT
Published by the Society
1907

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JOHN JAMES AUDUBON

1780—1851

American Ornithologist

Painted by Henry Inman.

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ANNOUNCEMENT

The Michigan Audubon Society will give three prizes yearly, as follows:

1st. A prize given on Arbor Day to the school, club or person having made the most successful effort in feeding birds during the Winter months.

2nd. A prize given June 1st to the school or club doing the most efficient work in protecting birds during the nesting season.

3rd. A prize given September 15th to the school, club or person for building and protecting the best planned and most successfully used bird house.

The Educational Publishing Company of Boston and Chicago will issue a book on the birds of Michigan suitable for schools. It will be illustrated by birds in their natural colors. The book will be published under the auspices of the Michigan Audubon Society. The purpose of the work will be to give a general introduction to the various birds common to our state.

CONTENTS

| | |
|--|----|
| Historical Data, | 5 |
| The Necessity for Bird Protection, | 23 |
| Methods of Protecting Birds, | 29 |
| A Word to Active Workers, | 33 |
| Suggestions for Teachers, | 35 |
| Points for the Study of Bird Life, | 39 |
| Suggestions for Organizing Audubon Societies, | 45 |
| English Sparrow Bounty, | 47 |
| A Chapter on Useful and Harmless Animals, | 51 |
| Books, etc., for Study and References, | 55 |
| By-Laws of Michigan Audubon Society, | 65 |
| Michigan Game Laws, | 68 |
| Notes on Legislation, | 78 |
| Licensing Committee, | 80 |
| List of Officers, Members, and Contributions Received, | 81 |



CARDINAL

UPPER FIGURE, FEMALE ; LOWER FIGURE, MALE
(One-half natural size)

Michigan Audubon Society

ORGANIZATION, EDUCATIONAL AND PROTECTIVE WORK IN MICHIGAN, OTHER STATES AND FOREIGN COUNTRIES

The Michigan Audubon Society was organized through the efforts of Mr. William Dutcher, of New York City, president of the National Committee of Audubon Societies, and Chairman of the Protective Committee American Ornithologists Union. Mr. Alex. W. Blain, Jr., Editor of the Michigan Ornithological Bulletin, acted as Secretary until the writer was delegated by the Michigan Ornithological Club to proceed with the organization of an Audubon Society, and the customary election of a protective committee of that club was passed over.

Upon the selection of the writer, he called a meeting of those interested in bird protection, February 27, 1904, and at that and subsequent meetings the Michigan Audubon Society was fully organized. Hon. Thomas W. Palmer was elected president, Jefferson Butler secretary and treasurer, and the following vice-presidents: Hon. Peter White, Marquette; President James B. Angell, Ann Arbor; Hon. Louis H. Jones, Ypsilanti; Hon. Chase S. Osborne, Sault Ste. Marie. In more recent meetings the following have been elected as additional vice-presidents: Hon. Wm. B. Mershon, Saginaw; Mrs. George Gundrum, Ionia; Bryant Walker, Detroit; Prof. Charles C. Adams, Ann Arbor; William Aikman, Jr., Detroit; Hon. Charles Freer, Detroit; Clara E. Dyar, Grosse Pointe; L. Whitney Walkins, Manchester; Prof. Elliot R. Downing, Marquette; Mrs. R. Adlington Newman, Detroit.

It was deemed advisable to elect an executive committee, and the following were selected to act in that capacity: Hon.

Thomas W. Palmer, Prof. Chas. C. Adams, Hon. Peter White, Clara E. Dyar, A. W. Blain, Jr., Bryant Walker and Jefferson Butler.

An advisory council was considered necessary in the work, the idea being to secure experienced ornithologists, and the following were named to act as such council: Prof. Walter B. Barrows, Michigan Agricultural College; J. Clair Wood, Detroit; Alex. W. Blain, Detroit, and Bryant Walker, who was chosen as legal adviser.

Being in working order, the society began its active duties. The secretary carried on a correspondence with the state game warden, Mr. Charles H. Chapman, of Sault Ste. Marie, and had an conference with Mr. Fred E. Fisher, deputy game warden, located at Detroit. Mr. Chapman wrote friendly letters and Mr. Fisher pledged his support. The secretary announced that he would consider suggestions from any part of the state. He wrote to the state game warden, asking for a list of the deputy game wardens, stating that it was the purpose of the Audubon Society to work in harmony or under direction of the game warden's department. Mr. Chapman replied that he did not wish to give the names of deputies for the reason that they could do better work if they were not known. He further said that it was the rule that all complaints should be made to him.

The outlook did not appear bright, and the society concluded that one of the most serious obstacles to contend with would be the game warden system. The people of the state knew that the law relating to game was practically in abeyance. Mr. Chapman had been careful to explain at a meeting of the Michigan Academy of Science held at Ann Arbor, that the meagre results of the game warden's department was due to lack of funds. This is no doubt a serious handicap, and does not bespeak a very deep interest in the work on the part of the legislature. From complaints made by members of the legislature, it is fair to presume that the legislature, would be more liberal if they felt convinced that moneys appropriated by that body would be used with advantage for the purposes designated. In other words, state officers said that if the officials would show a desire to enforce the law in the interest of science and good government,

money for further work would be forthcoming. Several members of both the House of Representatives and Senate expressed the opinion to the writer that the game warden office was forced into politics, and that it would not be advisable to donate money for scientific or humane work along this line. While it is much more pleasant to pass over matters of this nature, yet as a complete understanding of conditions could not be had unless the question of the enforcement of the game law or lack of enforcement were fully entered into, we feel it a duty to inform the public as to what has transpired.

Recently charges have been made against the game warden and his system by Charles E. Brewster, who was chief deputy game warden under Mr. Chapman. He suggests a commission of three to take the place of the game warden, but one to be appointed during each term of the state governor. This suggestion meets the approval of many Audubonist, and if an opportunity presents itself, they might possibly give it or a similar proposition, their unanimous endorsement. Where a system has been maintained for some years under one manager it is difficult to bring about a change by the appointment of another head, unless he is an extraordinary man. Those who favor a commission say that there is no better way to interfere with such a condition than to divide the powers and influence of the office.

The officers of the Audubon Society did not despair of securing assistance from the game warden's office, and after considerable inquiry secured the names of a few deputies acting for various counties. Clara E. Dyar, of Grosse Pointe, found considerable destruction going on, not only through illegal shooting of game birds, but song birds as well, the latter mainly by boys. She conferred with the secretary, who wrote Mr. Fisher without results. Mr. Fisher was further visited several times at the Fellowcraft Club, and gave many promises to visit Grosse Pointe, none of which promises were kept. Mr. Chapman was then appealed to and in his reply explained, saying that he wished a specific report for the reason that the deputies had no power to act, unless the game warden gave directions. The situation had already been set forth in the first letter to the game warden.

but another was sent which was never answered. The Audubon Society thereupon gave up all hope of assistance from the game warden or his office. A moment's thought would convince one of the weakness of this plan when one notes that a day or more is taken in forwarding a communication from Detroit to Sault Ste. Marie, and the same time in returning, and that offenders have to be taken with the game on the person or a conviction is next to impossible, if not quite impossible, and from two to three days gives them all the time they need to kill and dispose of their plunder. If the game warden were absent nothing could be done apparently until his return.

Consequently the officers turned to the prosecuting attorney for Wayne County, and wrote him a letter explaining the situation, and calling attention to the fact that the law of 1903 specified the prosecuting attorney of the various counties as empowered to enforce the game act. Mr. Hunt never replied. After telephoning his office the secretary became convinced that it was hopeless to do anything in that direction, the excuse being that it was the game warden's duty to enforce the game act. About this time complaints were made that a colony of the great blue heron near Clarkston, Mich., was being destroyed. The secretary visited the colony and found that the old birds were being shot during the nesting season, simply because the boys and young men found them easy to hit. The old birds were lying on the ground in every direction, and the young were starving in their nests. It was the story of the snowy heron over again, except that the circumstances were changed, the money in the aigrette being the end in the first case, while this colony of great blue herons was being destroyed simply for the "fun" of destroying, as they are useless for food, commit no damage and are useful as scavengers.

The Audubon Society officers thought that it might be possible to interest the game warden in this case, and an appeal was made to the deputy at Detroit. The reply to this complaint was the suggestion that the writer go to Pontiac and prosecute the offenders, as a game warden was not necessary for the law allowed any citizen to prosecute. This is true, and all a complainant needs is money to stand the expense

and the time to devote to the same. The deputy game warden claimed to have neither, though apparently appointed for this purpose. It was out of the question for a business man to travel twenty-five miles and spend a day in securing evidence, thence go to Pontiac, make the complaint and return to prosecute. This meant from three to four days' time beside the expense. In order to get the public to stand the expense the secretary of the Audubon Society wrote to the prosecuting attorney (summer of 1904) at Pontiac, and laid the matter before him. No answer was ever received. Mr. Fisher, the deputy game warden at Detroit, said that it would be useless to appeal to the prosecuting attorney for Oakland county, as he was in league with the sportsmen and had previously refused to take action upon complaint.

As a young man at Pontiac boasted that he had killed twenty-three of the blue herons during the season, it seemed necessary to take some action or the colony would be obliterated in another season or two. The secretary made a trip to the colony and heard shooting. While there he saw two men carrying guns, one had the wings of a great blue heron and explained that his mother wanted them for dusters. The secretary was about fifty yards distant when one of these young men shot a heron which flew away quacking and probably died in the swamp in which it flew. It left a nest full of young, a few seconds before it was shot. These young men were given notice of the law and prosecution was threatened. A number of farmers were visited, some of them joked about the shooting of the "Sandhill Cranes," as they called the birds. Others said that the acts of not only the young men but some of the older men in the community was shameful in destroying these harmless creatures. Others said they could not see any harm in the boys having a little sport.

The Audubon officers could see little hope of accomplishing anything without arousing the public. Public officials are influenced by public opinion, and where it has not been customary to enforce certain laws, it is difficult for a new official to see any reason for him to enforce them when the public is indifferent and apparently satisfied with prevailing conditions. It takes considerable discussion to arouse him

and if he shows a disposition to aid he is liable to be half-hearted in what he does. One of the purposes of this booklet is to present the conditions relating to protection of wild animals and wild bird life in this state so that the public may know the obstacles in the way for the performance of a civilizing work and knowing may help in obliging its public servants in doing the duties for which they have been selected.

During the past year Mr. Charles Daniel, county deputy game warden, has been doing good work in Wayne county. He is deserving of promotion.

The Educational Work.

Many who sympathize with the Audubon Society work see little likelihood of a reformation during the present generation, and place all their hopes in the future. These persons are, however, willing to contribute money and services for the purpose of securing and distributing educational literature in the hope of inclining the young in the right direction. They are also willing to help in providing for lectures in the districts where needed for the purpose of enlisting the attention and sympathy of teachers and parents.

About twenty thousand educational leaflets issued by the National Audubon Society, pamphlets from the United States Biological Survey, publications from the Michigan Audubon Society and miscellaneous documents have been circulated. Notices containing an epitome of the Michigan laws relating to game and song, and insectivorous birds have been posted on trees in localities where destruction has been common. Leaflets issued by the National Association of Audubon Societies, giving an uncolored plate of each bird, economic value and life history of the Nighthawk, Mourning Dove, Meadowlark, Robin, Flicker, Wild Pigeon, Snowy Heron, Marsh Hawk, Red Shouldered Hawk, American Sparrow Hawk, Screech Owl, Short Eared Owl, Ostrich, American Barn Owl, Yellow Billed Cuckoo as well as two extra leaflets issued by Bird-Lore on the Robin and the Purple Martin. Last year the National Association began to publish their plates in the natural colorings, and up to date have issued the following



AMERICAN GOLDFINCH

UPPER FIGURE, MALE ; LOWER FIGURE, FEMALE

(One-half natural size)

colored plates with description, etc.: The American Goldfinch, Cardinal Groesbeak, Kingfisher, Rose-breasted Groesbeak, Scarlet Tanager, Blue Jay, Kildeer and Bluebird. These leaflets may be had in small lots from the secretary of the Michigan Society or from the National Association president, Mr. William Dutcher, 141 Broadway, New York City. The uncolored leaflets above mentioned are sold to Audubon Societies for \$3.00 per thousand. The colored plates are more expensive, being one dollar per hundred.

A series of lectures by well known ornithologists and the secretary have been given, the majority of which were illustrated by lantern slides. Among those who have spoken were Mr. Wm. Dutcher, the national president; Rev. Wm. Lord, of Massachusetts; Prof. Walter B. Barrows, of the Michigan Agricultural College, who has spoken several times; Wm. F. Finley, editor of the Condor, and Norman A. Wood, of the University Museum, Ann Arbor. An attempt has been made several times to secure a class, for Mr. Henry Oldys of the National Biological Survey, Washington, D. C., who agrees to come on liberal terms and give a series of lectures, hold daily meetings for class study and give several outings. The officers are convinced that those who study bird life make the best audubonists, as their interest seldom lags. Many have but a fleeting interest, and yet it is found worth while to have their help or sympathy, even though it may last but a few weeks. The little done here and there eventually makes the work look large. No one can be injured even by a slight interest, and many feel an uplift.

The secretary has gone into the state and spoken several times before clubs founded on broad humanitarian interests, most of the talks being illustrated. He has also addressed several clubs and societies in Detroit, as well as special gatherings of children, outing societies, etc. No charge has been made except for railroad and hotel expenses in going out of the city.

The Biological Survey of the United States Department of Agriculture has helped the society in numerous ways by giving general information in regard to game laws, and the work in other states, in suggestions in preparing a state law, and

by forwarding upward of a thousand bulletins and leaflets. Only those directly interested realize the splendid work the U. S. Biological Survey is doing in preserving our forests, in enriching the land, protecting wild animals and birds, teaching the farmer and fruit grower methods by which they increase the yield of grain and fruit, vegetables and other forms of useful life. The documents of the government have a convincing power, no others can carry, especially to the many practical people who are inclined to question the claims of philanthropic societies believing that they are guided by sentiment. These persons are aware that when the government takes the trouble to print and circulate documents that there is a good practical reason behind the labor. Consequently we are doubly fortified when we have a stock of government bulletins on hand.

A few colleges issue pamphlets on subjects of nature study, those of Cornell being the most notable, and occasionally a few of these are secured and circulated. They too have a good effect, as they are considered beyond the influence of mere sentiment. The State Agricultural Colleges follow the same plan, and their documents are of great benefit. The Normal schools occasionally take up nature studies. One of the most interesting and practical documents is published by the Eastern Illinois State Normal School, entitled: "Bird Study in the Rural School," by Thomas F. Hawkinson, B. S. Our society secured a number of these booklets which were sent out in the state. Besides the various documents enumerated, considerable literature has been received from the educational departments of various states in regard to methods of teaching nature study and the protection of birds and animals and in observing Arbor and bird day. These documents are usually redistributed to teachers, superintendents of schools and active Audubon workers.

A number have asked for buttons, the philosophy of wearing a button being that those who are attracted by the button ask its meaning, and this gives an opportunity for the Audubonist to explain, where to open up the subject might be otherwise difficult. The button is of especial value among children ranging from 14 to 18 years, a period of life when habits of thinking are formed. The majority prefer the

likeness of some bird that can be readily distinguished. For this reason we have been buying the "Bluebird" button of the New York society. We secure them for a less price than we could have them made in Detroit. A number have been distributed in the state.

During the publication of the Bulletin of the Michigan Ornithological Club a page was given to the Audubon Society and the secretary filled the space with a history of the work accomplished and prospective work. These were reprinted and circulated throughout the State. They were useful in convincing sympathizers that the society was active and making progress. Nothing is more essential to a society depending on the public good will than a publication. This Society should have sufficient means to issue a leaflet quarterly giving the results of the work gone over, and outlining the immediate work for the future. This should be distributed without cost. Many workers lapse into indifference if there is not a reminder constantly before them. They conclude that there is no use working unless others are doing likewise; work on the part of others encourages them. After the indifferent stage takes possession of them, they are difficult to arouse.

Necessity for Some Reforms in Michigan.

When the Michigan Audubon Society organized, it was found that the State was backward in the work of bird protection. Two men went through the State about that time killing Scarlet Tanagers, Goldfinches, Humming birds, Baltimore Orioles, Indigo Buntings, Redstarts and other warblers for a woman in Toledo who was engaged in collecting for wholesale millinery jobbers. There were complaints from points in Michigan, but nothing came of the matter until they reached Ohio. All the parties were prosecuted there, convicted and punished. Later the Detroit papers reported that a Michigan lady went to Toledo on the electric cars wearing gull feathers in her hat. When she stepped from the car an officer informed her that she must remove the said feathers, as the law forbid traffic in the same, she having admitted in conversation that she purchased the feathers from the man

who did the killing. The officer undoubtedly exceeded his authority; however, we cannot pass in the matter without commending the people of Ohio for being alive to the question.

The killing of Humming birds went on in the Saginaw and Bay City district for some time. Our society threatened prosecution and informed the perpetrators of the prosecution in Ohio and the vigilance of the New York officials for the plunder was sold in that state. In time we were able to drive these members out of business, though there may be others carrying on the same work of collecting birds and their eggs. One man carried an advertisement in the Oologist offering to sell or trade bird skins and eggs and to supply dealers in any part of the country. He gave his address as Mt. Pleasant, Mich. There is good reason to believe that there is considerable traffic in birds and their eggs going on in various parts of the State. It is customary for offenders to deny any interest in such a business or to claim they have given up the traffic when they have merely changed location.

For years the egg hunters went to the St. Clair Flats and supplied egg faddists in all sections of the country. Old residents at the Flats say that it was the custom for years for egg hunters to start home on Sundays with several baskets of the eggs of game birds, so that in time the game birds were driven out and are not now common except during the spring and fall migrations. Other hunters are going to other localities, especially in Lake Michigan, Lake Superior and at points along Lake Huron and Saginaw Bay. However, in these localities the gulls and terns are the ones to suffer most. Our officers may hear of these complaints but can do little unless there is a fearless co-worker in the district where the offender resides or carries on his work.

Complaint was made that a man residing at Rochester, Mich., was in the habit of killing song birds daily for the purpose of feeding his ferrets. The secretary wrote him as well as Frank L. Covert, prosecuting attorney of Oakland County. Mr. Covert was the first prosecuting attorney to notice a letter from this society, and not only offered his co-operation in prosecuting the offender, but also wrote the

culprit. Such encouragement is of immense benefit and Mr. Covert is to be commended for showing a willingness to do his whole duty.

To read the full history of bird destruction in this State for one year would be akin to reading some of the inquisition intrigues of the middle ages. One would not need to be a sentimentalist to have a feeling of nightmare. There are many strong sympathizers in the State and a few most excellent workers, but they are comparatively few. Our State not only needs organization but co-operation among the various societies, who should at least make an effort to keep abreast with the progressive States. Later on I shall outline the work to be done in the State.

The Work of Protection in Other States and Countries.

Even in Colonial times some efforts were made to protect bird life and later a few of the States had many laws on their statute books looking toward this end, but nothing practical could be accomplished until the National Government took action and enacted a uniform law. A decision rendered by the United States Supreme Court in the case of Greer vs. Connecticut during 1896, to the effect that game was the property of the State, led to congressional legislation. A bill was introduced within a few months after the above decision but so unprepared was Congress for such legislation that three years passed before the Lacey act became a law. This act controls the importation of foreign birds as well as interstate commerce in game. Under this act useful foreign birds have been imported and harmful ones kept out. The English Sparrow has taught the government a lesson. The Lacey act gave the supervision of game and bird protection to the Secretary of Agriculture and the Biological Survey of that department has done an immense and splendid work.

The activity of the National Government not only encouraged the various States but those in foreign countries who sympathized with the movement. In 1889 the Royal Society for the protection of birds was founded in England. This society issues a quarterly publication entitled Bird Notes and News, which is sent to the secretaries of the State Audubon

Societies under direction of our National Audubon Society. During the summer of 1905 an international ornithological congress was held in London at which the question of bird protection was taken up vigorously. Three meetings had been held previously, at Vienna, Budapest and Paris. At these meetings bones and other remains of extinct species of birds were exhibited and the list given as destroyed by man is a surprisingly large one, running into the score, and a score more are on the verge of extermination.

The Germans are becoming active in bird protection and the British have had bills introduced in their various colonies providing for protection. One can appreciate the traffic in birds when he reads the report of Dr. T. S. Palmer, of the United States Biological Survey, for 1905 to the effect that "one consignment of foreign birds arrives on an average nearly every day in the year, that in busy seasons as many as ten thousand birds have come to New York on one steamer." He further states that 200,000 canaries arrive in this country yearly and 40,000 miscellaneous birds. On the other hand, there was a large shipment of wild birds from this country to Europe consisting mainly of Cardinals, Mockingbirds, Indigo Buntings and a score species of our bright-plumaged warblers. We have been speaking about the commerce in live birds, but it is a small matter compared with the traffic for millinery purposes.

The Plume Trade.

Bird Notes and News of the Royal Society (England), for 1905, has an item on the plume trade which is printed in full:

The trade report on the sales held in London on April 11, 1905, records a good attendance of buyers and good competition. Birds-of-paradise sold well at steady prices; 2,258 of light and dark plumed were offered, and 3,886 "various," the prices varying from 22s. for light plumes to 5d. for kings. Of Impeyan pheasants 100 skins were sold; and of the 295 packages of "osprey" feathers, 145 were stated to be East Indian, 45 Venezuelan, 52 South American, 41 Senegal, 7 Chinese, and 5 Turkish. The miscellaneous bird-skins comprised crested pigeons, cocks-of-the-rock, trogons, tanagers,

cardinals, kingfishers, humming-birds (43,224), canaries, etc. There were also seven lyre-bird tails from Australia, and tern-tails and other feathers from Japan; also quantities of crane, heron, bustard and eagle quills.

For the sale on June 14 the catalogues included 210 packages of "osprey" plumes, besides 200 "osprey" skins; 2,000 birds-of-paradise, together with 20 packages; 16 cases of "vulture" feathers (vulture is the trade name for the rhea), and 80 cases of miscellaneous birdskins of the usual kind. Several of these sales take place each year.

We learn from "Animal Rights," by H. S. Salt, that a few years ago a London dealer received in one consignment 32,000 dead humming-birds, 80,000 aquatic birds and 800,000 pairs of wings. That an army of men were sent out to slaughter 40,000 birds to fill a contract in Paris and that 40,000 terns were sent from Long Island in one season for millinery purposes.

Mr. Henry Oldys, of the United States Biological Survey, in "Audubon Societies in Relation to the Farmer," says that one shipment from Arch-Angel, Russia, contained ten tons of ptarmigan wings to the fashion centers. The educated, cultured women of America as well as Europe are responsible for this frightful destruction of bird life.

The Audubon Societies have been instrumental in checking the shipment of native birds to Europe and other countries, but there is no way to stop the traffic from Europe unless by arousing public sentiment to stop the demand in America for European birds. In order that the trader may realize the cruelty of shipping live birds, I take a clipping from Bird Notes and News:

Cage-Bird Traffic.

In December last forty-four dozen Larks and Greenfinches, newly caught, were sent by a Newcastle dealer to Liverpool for shipment to the United States. On arrival at New York over 80 per cent of the birds were dead, and those surviving in a weak and half-starved condition. Mr. William Dutcher, chairman of the Associated Audubon Societies, writes to our Society (December 21, 1904):

"The birds were sent in charge of a foreign express company, and the consignee refused to receive the small remnant of the original shipment. The result was that for three or four days the birds have been lying in the express office in this city gradually becoming weaker, although the company tried to feed them, but the putrefying bodies of the dead ones in the cages had a sickening effect on the ones still alive. I saw the few remaining ones—about twenty birds that had still some life in them—this morning and got the express company to consent to send them to a prominent bird dealer in this city that they might be cared for. I relate this story trusting that your Society will see whether some action cannot be taken to stop the shipment of such birds from Great Britain."

A second shipment of the same size met a like fate. Of the whole thousand birds less than 10 per cent reached New York alive. The shippers' version of the story is that the birds had every attention, but that 135 of the first lot died before being shipped, and that large numbers died daily during the voyage on account of the inclemency of the weather and the fact that the birds were fresh caught.

Neither the Bird Protection Acts nor the Acts for the Prevention of Cruelty to Animals seem able to touch these cases. They are simply an outcome of the trade in caged birds permitted in England.

The English Society and the National Audubon Societies of the country are helping each other and gradually strengthening the bonds of their labors. The National Government of our country is aiding in helping enforce the State laws in regard to interstate traffic in birds and animals and in helping the Audubon Society secure information, preparing laws and enforcing the same.

The National Government has set aside the following parks and islands as game preserves in which all animals and birds are protected: The Yellowstone Park, National Zoological Park, D. C.; Afognak Island, Alaska; Pelican Island and Passage Key, Florida; Breton Island, Louisiana, and Siskiwit Reservations in Lake Superior which is a part of Michigan, Stump Lake Reservation, North Dakota, and Wichita Game Preserve, Oklahoma. Besides these set apart

as National reserves, the United States Government offers protection in three Government parks in California and in the coast islands of the Pacific, Atlantic and Gulf of Mexico. Chicago and St. Louis were shipping game from other states. The National authorities furnished information that led to prosecution and broke up this interstate traffic, at least to a large extent.

Many states have protected their birds during severe winters by feeding them, probably the most systematic work having been done in Illinois, where appropriations were made by the legislature and by counties. New Jersey, West Virginia, Indiana, Missouri, Nebraska, District of Columbia and Virginia have all done more or less to protect their birds during the winter months.

In spite of the fact that many who undoubtedly considered themselves all wise looked upon the Audubon Society as a joke and did what they could to retard the movement, yet this society has accomplished a work not only for this but other countries that has astonished these all wise critics. The National Society which is now composed of members of the various State Societies, has been officered by men and women of ability and convictions. They have been untiring in their efforts to raise money for the work of the society and have used the funds judiciously.

The Audubonists have looked upon the whole question from the practical side. They have entered into agreements with wholesale milliners' associations representing both the East and the West. They have encouraged the taking of birds for scientific purposes, knowing that the government officials, colleges and scientists who killed the birds did so for the purposes of study only; that they did not take more than they needed and took not for commercial gain nor because of any fad, but for the purpose of informing humanity as well as for the interest of bird life. The majority of these men who have charge of such scientific work are ardent protectionists and it is only the amateurs here and there who decry Audubon work. The leading ornithologists who have taken birds for study and informing the public of the worth of bird life have been the first to call attention to the need of bird protection. Many of these men have been workers

in the Audubon Society. In fact, the Audubon movement grew out of the Ornithological Union. Dr. George B. Grinnell was a member of the first committee organized for bird protection by the Union in 1885. Dr. Grinnell was editor of *Forest and Stream* and in 1886 he organized the first Audubon Society. This movement made considerable progress until 1896, when the movement languished for a time, but took root again and is still progressing. The scientists and practical men did not desert the cause. It is the mere sentimentalists who have fallen by the wayside.

The Audubonists of this country have been the means of arousing the Mexican and some of the South American countries by convincing them that they are losing a most valuable asset in the destruction of their birds and active steps are being taken by these countries to protect them. The Audubon Societies were instrumental in having President Roosevelt set aside many of the National reserves for birds. The Audubon Society has raised money to supply wardens for these reservations and is today spending money to care for the gulls on islands in Lake Superior and Lake Michigan that belong to the State of Michigan. These gulls were killed and shipped to the millinery centers and the largest gulleries were on the verge of extermination. The State of Michigan did not care, nor its game wardens or other officers. Credit is due to Prof. W. B. Barrows, of the Michigan Agricultural College for calling attention to these places.

The Audubon Society has done more to reach the schools than any other organization. It has also aroused the educated, thinking masses in the community and commanded the use of their pens and thought. The National Society has been instrumental in securing the passage of the "Model" law in a majority of the States where the state societies would have been helpless.

In many of the Southern States robins, rice birds (bob-o-links), cedar waxwings and other song birds were eaten. The Audubon Society now has societies and model laws in all these states. In North Carolina and South Carolina the Audubon Societies receive the fees paid for hunters' licenses, and this amount averages from ten to eleven thousand dollars yearly. The sum is given over to warden service and

game and bird protection. Louisiana, formerly one of the worst offenders, has an excellent law and has set aside reservations in which all forms of bird life are absolutely protected. In fact, when the people of the South understood the value of bird life they were quick to help on the Audubon movement. Many ardent Audubonists in the North were free in adverse criticism of the South for bird-eating, little dreaming that many of the most useful and insectivorous birds in the North were being shot for the same purpose, such as the meadow lark, mourning dove, quail, and other species. Many of the Southern States are now far in advance of Michigan; Alabama adopted early in 1907 the most drastic bird and game law now in force in the United States. It would take altogether too much space to go into the work being accomplished in the various States and Territories.



By courtesy of Norman A. Wood.

Loon Nest and Eggs



By courtesy of Michigan Ornithological Bulletin.

Nests of Great Blue Herons Near Clarkston, Mich. The Lower Nest is 92 Feet from the Ground.

The Necessity for Bird Protection

The Audubon Societies protect the birds because they are economically useful. Many who have judged themselves as practical and as opposed to sentiment have belittled the work of the Audubon Societies as an uncalled for sentimental enthusiasm. These so-called practical persons are, as a rule, ignorant of conditions and are generally unwilling to study them. This applies with equal force to those ornithologists who study but one side of their subject.

The bird protection idea grew out of the work of a committee selected by the American Ornithologists' Union, a national organization. This committee was chosen for the purpose of studying the conditions of bird destruction and devising methods of protection. This committee found that the conditions called for early action, and as a result of its work, the Audubon movement was born. Consequently the Audubon Society grew out of a practical organization, a national representative society, fostered by the leading ornithologists of the country, for the purpose of the scientific study of birds and bird life, and was not born of the imaginative brains of a few philanthropic sentimentalists, as has occasionally been asserted. These practical men, who gave their time and energy gratuitously for the preservation of bird life, had good, common-sense reasons for so doing. There are those who seem to think that the Audubonists' objection to the killing of birds is akin to that of those vegetarians who protest against the killing of animals for the table, on account of the cruelty of the practice. This is undoubtedly true in cases where the birds are destroyed for no useful purpose, where they are killed wantonly for no other reason than to satisfy our inheritance from the savage. On the other hand, they not only do not object to but encourage the taking of birds by scientific men for scientific purposes, because they realize that the studies of such men serve to enlighten the public and eventually present the strongest arguments for bird protection.

The Biological Survey of the United States Department

of Agriculture give the scientific analyses of the stomachs of thousands of birds they have taken for the purpose of such examination. The value of the common birds is set forth in various bulletins. The purpose of the study and the publications is to inform the public and especially the agriculturists and fruit growers. These bulletins are sent without charge to those who make request for them. The most useful ones to Audubonists beginning the study of the value of bird protection are "Some Common Birds in Their Relation to Agriculture," by F. E. L. Beal; "Audubon Societies in Relation to the Farmer," by Henry Oldys, and "Some Benefits the Farmer May Derive From Bird Protection," by T. S. Palmer. There are many other bulletins in relation to special groups of birds. It is astonishing how few birds are harmful. It is doubtful if any bird is more harmful than beneficial. Crows are condemned in the corn growing States because they uproot newly sprouting corn, and yet they undoubtedly balance the damage in the destruction of harmful insects.

The fact is that man's fight for existence would be greatly augmented by the passing of bird life. Some reliable scientists have gone so far as to say that human beings would be driven from the earth by the horde of destroying insects if bird life were eliminated. There are those, however, who think that man could get the mastery over these insects. We can imagine what this fight would be when we consider that Massachusetts has been fighting one insect, the gypsy moth, for the past fifteen or twenty years, in order to save the trees of the State from destruction. During that time the State has spent millions of dollars and private individuals have probably spent hundreds of thousands. This is not all, for the people have been kept in a constant worry over the plague. The United States has been called on to help, as the pest has spread into other States, and the United States officials say that the only remedy is to destroy every tree affected.

You may ask why the birds do not keep these moths checked. Birds are like other animals, including human beings, in many respects. We are all likely to prefer the food we are used to. The gypsy moth is not native, but an im-



BELTED KINGFISHER

(UPPER FIGURE, FEMALE ; LOWER FIGURE, MALE)

Order—COCYGES

Family—ALCEDINIDÆ

Genus—CERYLE

Species—ALCYON

portation from Europe. But in spite of this fact the birds do help in destroying them. When we read of the immense destruction to Kansas crops and the crops of other Western States caused by the migration of locusts during some years, we can imagine what we would suffer from this insect alone if it were not for the hundreds of millions destroyed yearly by the birds. The birds work for man and it is only fair that we should protect them. The odd thing is that man, the greatest benefactor of the birds, should be their worst enemy.

Many who shoot birds for sport advance the argument that the birds they kill make good eating, and that the hunter is entitled to the enjoyment. This argument is considered legitimate by Audubonists when applied to the purely game birds, such as ducks, provided they are not taken during the period of gestation or nesting. But the writer has known many sportsmen to kill meadow larks and quail as game birds. What do they get? A little bit of flesh the size of a couple of fingers. And what do they destroy and rob you and the public of? The meadow lark is stated upon reliable authority to be worth twelve dollars yearly to the State, and the quail twenty dollars. They will live on an average of five or six years if not molested. The result is that the sportsmen get a few cents' worth of meat and the state loses a force worth from fifty to one hundred dollars.

If one desires to persist in a habit, arguments can be brought forth and dressed up in logical form. Some collectors who are smitten with the fad argue that it is absurd to protest against the taking of common birds, because they are so numerous as to make extermination out of the question. When rare birds are taken, these collectors argue that these birds are so few as to make their taking of little consequence. These arguments remind one of the darkey's 'posum trap, which was set near the animal's home, so he could "kotch the 'posums a-goin' and a-comin'."

It would seem too bad to make the economic value of birds the only argument for protecting them. To do so would belittle our civilization. It is unnecessary, however, to enter into the esthetic value of birds, as that is commonly understood if not appreciated. Our literature is filled with reference to birds, which shows their influence for good over

the minds of the intellectual leaders of the race. Our birds are an inheritance that have always exercised a refining influence, and it is wrong for us to permit their continued destruction. We are robbing posterity of a civilizing force that cannot be replaced.

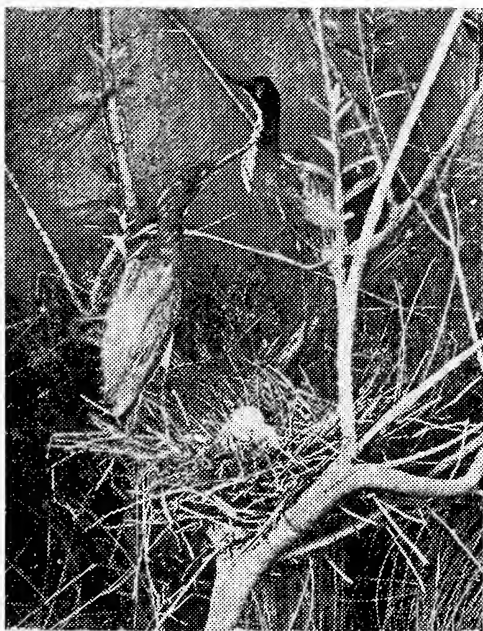
Another reason why we should forbid promiscuous killing of birds is the bad habits acquired by boys. Many bird-killing boys become indifferent to pain and acquire vicious habits and a wrong view of things. No boy who kills a bird for the "fun" of killing can be benefited by such a practice, and many cases are on record where such boys have been led into other vicious habits and into the penitentiary. One man recently released from a Michigan institution says that the killing of birds and animals was his first bad habit, and further says that this habit deadened his conscience. Let us save the boys from acquiring such habits, habits which injure themselves as well as the State.

Whatever arguments may be advanced in favor of bird-taking, whether because of the healthful outings enjoyed, or whether some inferior reason be given, there seems to be no one to champion destruction for millinery purposes, except possibly a few who profit by the trade. The millinery jobbers' associations are in favor of discontinuing the use of wild bird feathers in the millinery trade. They are willing to discontinue the traffic if the demand can be abated. They are co-operating with the Audubon Societies. Vanity, no doubt, leads many women to wear the brilliant plumage of wild birds, but it is quite likely that the majority have failed to think on the subject and do not know what a wrong they are perpetuating. It is the duty of the Audubon Society to teach these women through education or otherwise. The most effective method is to arouse the consciences of the children while they are pupils in the schools. Our school teachers cannot do a kindlier act for the pupil or the State than to engender a kindred feeling for animal life in all forms.

Collectors and agents for millinery supply houses frequently contend that the birds are just as numerous as ever. They say they are out in the fields and they know of their own knowledge. They are undoubtedly mistaken, be-

cause they have not made a systematic study from year to year. Mr. William T. Hornaday, the director of the Zoological Park, New York City, states, after thorough investigation, and the consensus of opinion of students in the various states, and in the nation at large, that bird life deceased 23 per centum in Michigan in fifteen years; that is from 1885 to 1898, and in the nation decreased 40 per centum, or almost half. This is certainly a disgraceful history for a civilized country.

We have shown that the birds are useful, not only as a civilizing influence, but economically, that they are destroyed by many forces, and that consequently they are in need of protection. Why should not those who have the best interests of their country and humanity at heart protect them?



By courtesy of Detroit Free Press.

Green Heron Nest and Eggs.



By courtesy of P. A. Taverner.

Least Bittern.

Methods of Bird Protection

A great many speak of bird protection with enthusiasm, but when requested to take an active interest in the work are at a loss to know what to do. The general work of protection may be summed up as follows:

1. Feeding the birds during the severe winter weather.
2. Protecting the nests from boys and collectors. Ornithologists with a license may collect the eggs of song or insectivorous birds, provided no more than one set of eggs is taken during the year. For collecting the eggs of game birds a license must be obtained from the State game warden, and is usually limited to 30 days.
3. Protecting the birds from hunters, who frequently shoot large numbers of game birds to eat, to give to friends, to sell, and to make a record.

Keep up with the law in regard to the seasons and the number of game birds that may be taken, as well as the method of killing. The law forbids many methods.

Hunters commonly shoot song birds just for the practice of straight shooting.

The methods of carrying out this work of protection is varied. During the winter grain of various kinds may be scattered in places frequented by birds. The birds keep to the trees at this time of year, both for the food obtained and for warmth, consequently it is well to place the food near woods or a collection of trees. It is better to grind the grain, such as corn, oats, sunflower seed, buckwheat, crumbs of bread, meat, etc., are very acceptable, and the suet and bones spoken of before should not be forgotten. The birds will run no danger of starving during the summer. However, if you desire to attract them, it is possible to do so in summer by growing the trees, shrubbery and flowers that produce the food they prefer. Vines are always appreciated by birds. Belle Isle in the Detroit River had few orioles a dozen years ago. Vines were grown for the purpose of

attracting them and the Baltimore orioles came in large numbers. Non-poisonous sumach are enjoyed by the birds, besides they look attractive. The climbing bittersweet looks inviting in the autumn and will be frequently visited by the birds, and the same is true of the Virginia creeper. Those who have the ground can experiment and acquire knowledge at first hand in the course of two or three seasons. All berries should be left on the vines or trees, as winter birds are fond of all varieties and the spring birds are sure to discover what may be left upon their return.

The State of Illinois spends about five thousand dollars each winter in feeding their birds. It is customary in some States to scatter food over the ground or snow for quail, as well as in openings in crusted snow, as the quail frequently get imprisoned in such holes and slowly starve to death. This is especially so after a sleet or rain when snow is on the ground, as the openings are made too small for the bird to escape or entirely closed. In many States the schools undertake the feeding of birds and useful wild animals.

The first step to protect birds and animals against the depredation of boys is to get the superintendents and teachers of schools interested in bird and animal protection. If the teachers are so disposed, they can arouse a sense of right in children and impress them with the fact that the world was not created or evolved for man alone, but that other useful creatures should enjoy the same privileges of life and happiness. It is not advisable to invoke the law in the case of children disobeying the game law, without first informing the instructors. Both teachers and parents should be appealed to. However, it sometimes has a wholesome effect to have boys punished who persist in destroying in defiance of the law. Some boys follow the reasoning of their elder sportsmen and kill animals and birds because such animals or birds are considered harmful. The boys should be taught that it is wrong for them to kill such animals or birds. Advise them to leave the matter of regulation to scientists, or to the State. Many of the "weather prophets" in the community are mistaken in regard to animals and birds and frequently advise the killing of all hawks, yet the majority of hawks are among the most useful birds our country pos-

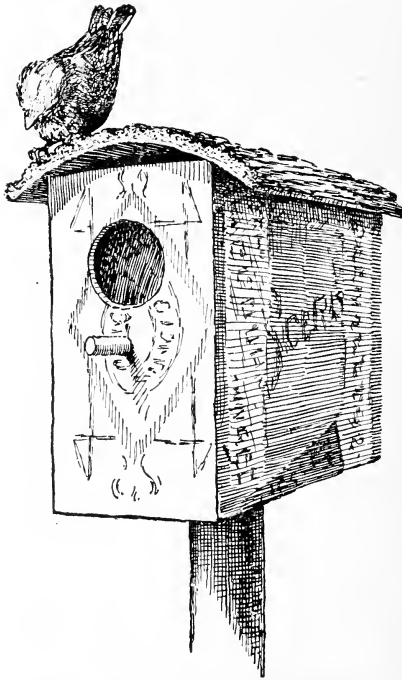
esses. They kill a robin in a cherry tree as a pest, yet fail to give that bird credit for the immense good it does. These men are not competent to judge of the value of a bird and should be supplied with government bulletins, giving the economic value of the bird they condemn.

It is well to have the children observe a bird day, or to add that feature to arbor day. Literature on the usefulness of birds should be supplied, and a talk or recitation given touching upon the subject. Bird boxes should be built and erected by the children under supervision in cemeteries, public grounds, etc. By erecting these boxes they will have opportunity to study bluebirds, house wrens and purple martins and sometimes other forms. The three mentioned are all very interesting and well worthy of study. A common cracker or soap box will answer, with a hole for entrance, and this hole should be small, except for martins. No nesting material is needed, as the birds prefer to supply their own. The pole on which the box is erected should be firmly fastened so as not to sway with the wind. Children should be interested in birds, but the interest should take into consideration the rights of the bird, and not be governed wholly by the child's pleasure or curiosity.

Protecting birds from hunters is not so difficult, except where hunters are in large numbers in the community. A letter from a public official, such as a prosecuting attorney, or game warden, often clears the air in such cases. The fact that the schools in the community are teaching the children the value of birds and their right to protection often has an influence for good among the fathers and friends of the children. The knowledge of an Audubon Society in their midst often makes these men more circumspect.

Under the law it is not necessary to seek an officer. Any person may make complaint to a justice of the peace, but in order to convict he must appear as a complaining witness. Sometimes the people in a community will bear with great annoyance before instituting a suit. Those who may seek to avoid such unpleasantness should at least inform the prosecuting attorney of the county, and request him to write the offender. He should also inform the county deputy game warden. Under the law, it is also the duty of the sheriff and

his deputies to enforce the law, and constables are given the same power. This provides for persons to enforce the law in every community. If a man is in fear that an officer of the law is investigating his actions, he is likely to discontinue his offence.



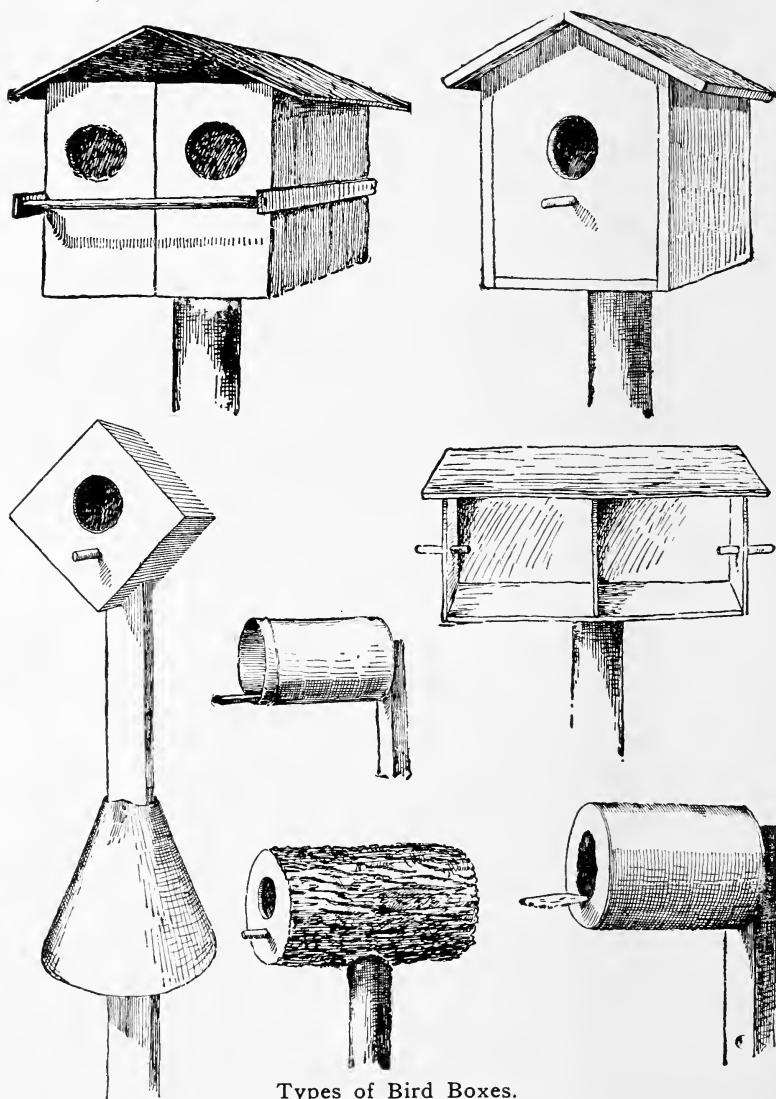
A Word to Active Workers

Local societies are organized in the various districts with a full set of officers. All the societies are allied to the State organization and under its jurisdiction. The local societies are expected to carry on active protective work in their district. The State society purchases literature, etc., from the National organization, and the local societies in the State are expected to forward sufficient money to the State society to cover the expense of securing such literature or books as they may wish to use for distribution. The local societies are expected to enlist the sympathies of school children and the co-operation of teachers. They should have copies of the laws of the State relating to protection, and should endeavor to have the officers, therein named, carry out the provisions of the act. They should keep records of the work they do and before beginning active duties should outline their work as far as they possibly can, which means that it is necessary for them to know the conditions prevailing in their districts. This requires that they should have the advice of a practical ornithologist who is familiar with the districts or should skirmish around and learn by observation and inquiry for themselves. The local secretary should keep the State secretary informed of the conditions in the districts and the work being done. The State secretary is obliged to report to the National president.

The local society should make a study of bird life as it is found, that those who are familiar with birds, their history and usefulness make the best Audubonists, and the more "bird students" there are in a society the more active and useful it is. The society should have a dozen or so of the best books on the subject, if possible. If their finances will not permit of this, they should request Mrs. Mary Spencer, State Librarian, at Lansing, to forward books. If they desire slides for lectures, they may borrow the same from the State secretary by paying expressage and paying for any slides they may break.

The local secretary should write to the Secretary of State

for a copy of Act No. 251 Public Acts, 1905, relating to the protection of game birds. For further details of work, literature, etc., write the State secretary, 25 West Elizabeth street, Detroit, Mich.



Types of Bird Boxes.

Courtesy of Cornell University.

Suggestions for Teachers

Teachers should have no hesitation about taking up at least the humanitarian side of protection of birds and animals, for it would not interfere with the present courses offered and the results would be worth the labor. Of course, the teacher could give a more intelligent reason for both animal and bird protection if informed of the lives and usefulness of such animals and birds, and were in touch with the work now being carried on.

It is not necessary that school clubs be organized, though it is often desirable. Nor is it absolutely necessary to have courses in nature study, though such are highly commendable and are always profitable of good results. The school books usually have stories of birds and animals, and teachers, by being informed as to the lives and usefulness of these subjects, may use their knowledge to good advantage during the reading or discussion of the theme. Above all, they should instill the humanitarian spirit, for that is really the aim and end of the Audubon endeavor, as well as other protection societies. And if this is overlooked, the whole Audubon undertaking is useless. Not only should boys be taught the wrong of killing animals, but the girls should be impressed with the wrong they do in aiding bird slaughter by the wearing of bird feathers.

If parents should object to time being taken for such instruction, it might be well to remind them that such teachings are compulsory in many States. Maine, Texas, Pennsylvania, Idaho, Washington, California, Colorado, Wyoming, South Dakota, Montana and Oklahoma oblige the schools to teach the rights of animals. Michigan will adopt such a law before many years. The testimonials of teachers and superintendents of schools in the States where such subjects are taught show that where the rights of animals are understood and respected that the children have more consideration for each other, show more courtesy and maintain better discipline, while crimes and wrongs among the children have

decreased. The American Humane Education Society, 19 Milk street, Boston, Mass., are doing a good work in bringing about laws for the protection of animal life. Literature may be had, without cost, on the proper treatment of animals by writing that society.

Humane treatment of some of our animals means the protection of thousands of our birds. Teach the children to care for cats and to feed them daily so that they will not be obliged to forage for their living and thereby be forced back to semi-savagery. Cats destroy countless birds every year, because they go around ravenously hungry. It is inhuman to allow this, to say nothing of the loss of birds. Read "Friends and Helpers," by S. J. Eddy, which may be had through the above society, or Ginn & Co., Boston, Mass.

Teachers should have a general knowledge of what is being done in nature study work and in order to sustain their interest, they should ask for the latest Audubon literature. Bird-Lore, the official organ of the Audubon Society, has full information in regard to Audubon work. Mr. Frank M. Chapman, of the Museum of Natural History, New York City, the author of many reliable books on bird life, is editor, and subscriptions may be sent to him at the above address. A most useful book on the economic value of birds may be secured for five cents, entitled "How Birds Affect the Farm and Garden." (See heading "Books.")

A day is proclaimed in Michigan each spring by the Governor, known as Arbor Day. The publication of the proclamation is done in such an obscure way that it is usually impossible to learn of the day set until it has gone by. This, no doubt, is due to the fact that so few take an interest in it. Let an interest be shown and we shall hear more of the day. In Wisconsin it is known as Arbor and Bird Day. The exercises held on this occasion are published by the Secretary of State for Wisconsin, and possibly copies could be obtained by writing that official. The title of the book is "Wisconsin Arbor and Bird Day Annual." The day in Michigan should be taken advantage of and appropriate exercises held. Beautifying the school grounds usually leads to bird study and to bird protection. Trees bring birds and a few evergreens near the school may attract

birds during the winter, especially if provision is made for food. If boxes are properly placed, bluebirds, wrens and purple martins may nest in them during the spring. This will help make the school surroundings cheerful. The Audubon literature will give full information as to boxes, study of birds, etc.

The children should be taught that it is not their place to kill even those birds that may be considered objectionable, as the English sparrow or crow. They should be impressed with the fact that the United States Government is spending thousands of dollars yearly by the employment of experts to study birds and instruct the farmers, fruit growers and citizens generally as to their value and explaining why they should be protected. Many of the State governments, through their agricultural colleges, are doing the same. Nearly all the States have protective laws. The children should know this, and that a campaign is being carried on in Europe, Australia, South America and other parts of the civilized world for the protection of wild bird life. Make the children feel that they are taking a part in the movement for the advancement of civilization, and at the same time helping to make our country and its crops of more worth to the people. The fact that birds have been of immense interest to scientists and poets should not be forgotten, and that consequently birds have had a potent influence in cultivating the esthetic sense. This has been true from the dawn of history, as may be learned from the ancient poets.

The best general book on animals, including birds, is "The America Natural History," by Wm. T. Hornaday. Where there are a number of teachers in nearby schools, this book would not be so expensive if one book were purchased for the use of all.

For those who desire a start in bird study, the season and locality of a few common birds is here given:

Winter Birds—English Sparrow, Tree Sparrow, Junco till middle of December, Song Sparrow occasionally, Blue Jay, Northern Shirke Red Poll, Crow, Chickadee, Nuthatch (white breasted), Downy Woodpecker, Hairy Woodpecker, Red-headed Woodpecker some winters, Goldfinch, Golden Crowned Kinglet during mild winters.

Acquaintances to be made during March and early April—Robin, Bluebird, Crow Blackbird, Red-wing Blackbird, Cowbird, Meadowlark, Mourning Dove, Brown Thrasher, Killdeer, Towhee, Tufted Titmouse, Goldfinch (in colors), White-throated Sparrow, Fox Sparrow, Field Sparrow, Vesper Sparrow, Kingfisher, Phoebe, Brown Creeper, Prairie Horned Lark.

Acquaintances to be made in latter April and in May. bird, Catbird, House Wren, Baltimore Oriole, Orchard Oriole, Chipping Sparrow, Wood Thrush, Oven Bird, Rose-breasted Grosbeak, Bob-o-Link, Red-eyed Vireo, Indigo Bunting, Myrtle Warbler, Purple Martin, Barn Swallow, Chimney Swift, Ruby-throated Hummingbird, Maryland Yellowthroat, Scarlet Tanager, Crested Flycatcher, Redstarts, Yellow Warbler.



By courtesy of P. A. Taverner.

Yellow Breasted Chat.

Pointers for the Study of Bird Life

It is the experience of the society that the most efficient bird protectionists are those who are interested in ornithology, for the reason that their sympathy is constant. The state is well supplied with sympathizers who know little or nothing of bird life and the value of a bird to the state. If these persons show an active interest, it is usually a passing one, and they cannot be relied upon, because, not being interested in the study of bird life itself, their attention is commanded by subjects that attract them elsewhere. There are notable exceptions of philanthropists and public-spirited citizens who have every good work in the community at heart.

The Audubon Society desires the support of all and welcomes everyone, even though they can give no more than good will, for after all, we are finally dependent on public opinion. Yet the fact remains that the better informed render the better service. There are a number of workers who deplore the fact that they are unable to answer questions regarding the various species of birds, the localities in which they may be found, their food, their value to the state, their nesting habits, the periods and zones of migration, and the best means of protection. Other persistent questions and usually considered the most important in beginning the study of birds, are their identification by color and by song. In order to aid in answering the first question, a few of our common birds in color are presented in this volume.

Many of the above questions cannot be taken up, as they require whole volumes, and for those who desire further information and study, a list of desirable books will be given later.

We agree with many writers that the best time to take up bird study is during the winter, because the species are comparatively few and the confusion is not so great. Once get interested in the winter birds, and your further progress is assured.

Beginners frequently become discouraged because they find they cannot identify all the birds in one or two seasons,

but it is usually more profitable to give attention to a few birds, not more than a dozen species, during the first season, for the reason that if you know your dozen thoroughly, you are not likely to confuse them with others. If you do not know the most familiar species, you will borrow trouble.

A correspondent wrote to inquire if the birds he saw in the meadow near his house, being about the size of a robin, were towhees. The writer replied that he would not expect towhees to remain long in meadows, unless they were well supplied with trees or tall shrubs; that the birds he saw were probably meadow larks, or bob-o-links. He finally learned that they were meadow larks. One should not expect to find towhees in open meadows or meadow larks in deep woods. Many start out by merely endeavoring to identify a large number of birds, and really never learn to know their birds. These are the persons who are most likely to become weary or discouraged.

One of the most important things is to learn the habitat of each bird, and second, to know why they are attracted to those places. One who observes with an eye for information would never think of looking in the woods for red-winged blackbirds, and yet the writer knew of a person who did this very thing. At the same time it is infinitely better to display ignorance and be righted than to remain ignorant.

Michigan has sufficient range north and south to make considerable difference in bird life. One would not expect to see a cardinal north of Saginaw, and it may be they do not go that far north. On the other hand, the purple finch and evening groesbeck, at times common in northern Michigan during the winter, are rarely seen in the southern portion of the state, except during the severest weather and after such weather has been continued for some time.

To begin with, note the characteristics of the English sparrow, so that you can readily distinguish it from the native species. Do not attempt to identify the whole tribe of sparrows that may visit your neighborhood in the course of the year, for they are as difficult to learn as the warblers. It is taken for granted that everyone knows the robin and the crow. Beginners usually do not care to give time for study of either one. Yet scarcely a publication in ornithology in



SCARLET TANAGER

1. ADULT MALE. 2. ADULT MALE, CHANGING TO WINTER PLUMAGE. 3 ADULT FEMALE.

Order—PASSERES
Genus—PIRANGA

Family—TANAGRIDÆ
Species—ERYTHROMELAS



the country but has some new facts concerning the robin in the course of each year, and Prof. W. B. Barrows, who spent several years studying the crow, says that he still learns new things of them.

The black-capped chickadee is common throughout the state during the entire year, and is therefore known as a resident bird. They are more common in the southern portion of the state in winter than in summer, and probably less common in the northern portion. The fact is that the state has not been studied thoroughly enough to give definite information on this, and many other points in bird life. The chickadee is considered the most friendly of all our birds, and is well worthy of study. The winter months is the best time to make their acquaintance. The writer has found them in thickly grown woods, for the reason that such woods usually offer more food and better shelter.

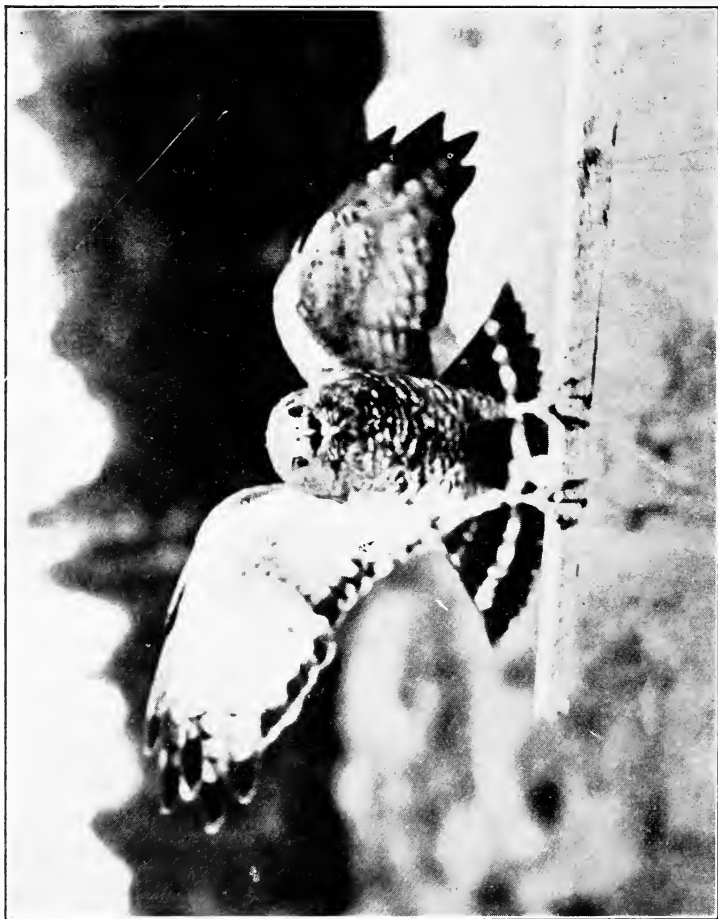
The white-breasted nuthatch is generally seen in the same woods with the chickadees. Its colors are more attractive and its notes a very odd one.

The slate colored Junco is common in southern Michigan during the winter, and just as common in the northern portion in the summer, where it breeds.

Both the hairy and downey woodpeckers are winter, as well as summer birds, and may be observed in all parts of the state. The red-headed woodpecker frequently winters in Wayne County.

The blue jay is a common resident bird, and the northern shrike may be seen in all parts of the state during winter, though it is rare in the southern counties.

The winter birds may be attracted to your homes, provided you do not live in the business district of a large city, by placing pieces of suet on trees or other convenient places above the ground. Also by scattering crumbs, waste meat and small seeds. Woodpeckers like bones with fragments of meat, and suet attracts nuthatches and chickadees, while juncos, goldfinches and native sparrows enjoy small seeds such as come from the leavings of hay. As the birds have a severe struggle for life during our winters, you may feel that in banqueting them, you are doing a charitable deed, in return for which you receive their companionship and are



By courtesy of Shield's Magazine.

Live Sharp Skinned Hawk.

afforded means for study, which will broaden your insight into nature.

It is impossible to understand birds from the study of books alone, and it is too long and laborious a problem to learn the characteristics of birds without books. It is better to read up on your birds directly after an excursion taken for bird observation, and the problems will be less difficult if field notes are taken at the time of observation. The study of birds is also much simplified by the use of opera or field glasses, as you can observe from a distance without disturbing the object of study.

The spring brings the migration of scores of species running considerably over the hundred mark in almost any locality. It is not advisable to endeavor to identify all the thrushes, warblers and sparrows the first season, and it is just as well to pass by the flycatchers, except the king bird, and not to worry over the vireos. The larger birds are, as a rule, more easily studied, their colors more readily distinguished and their song more characteristic possibly, because it is loud and distinct. Among the more easily identified and studied are the blue-bird, meadow lark, brown thrasher, cat-bird, Baltimore oriole, kingfisher, towhee, purple martin, red-winged blackbird, wood thrush, cowbird and American goldfinch. If you must have warblers, you will find the yellow warbler and redstart common enough.

During the nesting season be careful not to touch the eggs of any species until you learn their habits, as some birds abandon a nest that has been disturbed. Watch at a distance until you are sure you may make close observation. Birds that are not too greatly disturbed may be photographed. Those who desire to attract the birds about their houses may do so by having fresh drinking water in convenient spots. A fountain with sufficient water for bathing purposes is the best attraction. Bluebirds, house wrens and purple martins will build in boxes if properly placed. Write National Association of Audubon Societies for Bird-Lore treating of bird houses. (January and February, 1905.) Address 141 Broadway, New York City.

The student will find much interest in the gathering and study of nests. The nests should be taken soon after the

nesting season, as the rain is liable to take away their freshness. A few birds, as the house wren and robin, use the same nest for a second brood, but most birds nest but once during the year. Learn for yourself and then use your best judgment in taking nests. Observe the material they use and study their methods of building. Do not take eggs. In the first place, the state law forbids it, and in the second, they answer no scientific purpose except to a biologist. We admit they are objects of beauty and may be interesting to the curious, but it is not legitimate to destroy useful, as well as beautiful objects in nature to adorn a corner in a room.

For further study consult the books, or any of them which may be at hand, which is given in the following pages:



By courtesy of Shield's Magazine.

Little Green Heron.

Suggestions for Organizing Societies

To begin, there must be some one willing to give a little time to the effort.

Usually the more enthusiastic and convincing the mover, the more rapid the progress.

If you believe that our birds should be protected and the laws enforced, don't feel that you are not the right person to set the thing in motion. Those who *will* are usually those who *can*.

Get five or more of your acquaintances, whom you know to be friends of the birds, to pledge themselves to meet at a designated time and place for the purpose of organizing an Audubon Society.

Your teachers and your newspaper people will almost always join the movement. Clergymen and public-spirited citizens should be sought for advice and assistance.

Having fixed the time and place of meeting, make suitable advertisement by a few cards in public places and announcements in your local newspapers. Newspaper men and women are always willing to give the use of their columns in aid of a good cause.

A few letters to persons whose influence you may think would add to the success of the movement, requesting their presence and encouragement, will serve a good purpose.

State the object of the organization in your call. Say that the society is formed for the purpose of protecting the non-harmful species of wild birds; to assist in enforcing the laws for the protection of songbirds and game; to encourage the study of natural history in the public schools; to discourage the wearing of the skins or plumes of wild birds by women, and to stimulate in old and young a love of the beautiful in Nature.

Having come together, complete your organization by adopting by-laws and selecting your officers. Don't be discouraged by a small attendance at your first meeting; a great

many persons always wait for a procession to move before they fall in.

When your senior section is organized, take up the work in the schools. You will find the teachers in hearty sympathy with the movement. Our plan is to form a Junior society of the pupils of the schools.

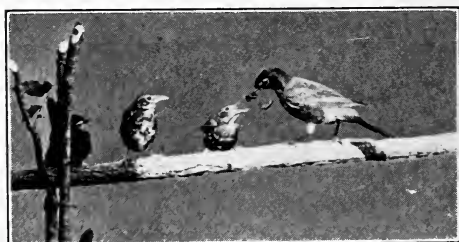
Educational leaflets issued by the National Committee of Audubon Societies and leaflets issued by the Michigan Society, relating to the work as it progresses, will be mailed to all applicants.

When a sufficient number of local societies are organized it is planned to federate them as a State society.

An Audubon Society is needed in every county in the State. In some localities men are engaged in killing song-birds for the millinery trade, nests of our most useful and beautiful species are robbed by collectors frequently for gain, and by boys for "sport," and reports have come that in certain counties, unguarded by wardens, the laws protecting game birds and the meadow-lark are openly violated.

There are many thousands of good friends of the birds in Michigan, but they can do little in the way of effective protective work save by organized effort.

Give a little of your time to the pressing needs of this humane cause and you will be paid a thousand fold. The songs of the birds will be richer and the return of the migrants will bring more pleasure when you feel that you have done your part to shield them from the cruel, the mercenary and the thoughtless, who would deprive our State not only of one of its chief ornaments and attractions, but of one of the best economic forces in the State and nation.



By courtesy of Shield's Magazine.

Robin Feeding Young.

English Sparrow Bounty

Michigan had a law passed in 1891, under which a bounty was paid by the state for the killing of English sparrows. The law led to a great deal of fraud, as those degenerates who made a practice of killing those birds did not hesitate to kill other useful species, and to swear that they were English sparrows. This put a premium on false swearing and led to the destruction of large numbers of song sparrows, chipping sparrows, gold-finches, tree sparrows, and other birds that were sparrowy in look. Shooting of youths by each other took place in quarrels over the bodies or heads of dead birds, they being obliged to present the heads alone to receive the bounty. Men made their living by destroying birds and, of course, were not particular what they shot. The result of the law was that it led to demoralization among boys and youths, as well as among many men. The history of the effects of that law as presented to the legislature was a disgusting, disgraceful story, and sufficient to cost a blot on our civilization. The result was that it was repealed in 1901.

In 1905 another legislature that failed to study the conditions of the previous law, passed an act allowing counties to give bounties on the killing of English sparrows. Some one is eternally forcing on the sparrow bugaboo and communities become frantic over the supposed harmfulness of these birds who know nothing about them, except from hearsay. The writer has gone into the communities and asked as to the damage the English sparrows commit without ever being able to obtain any facts. One will tell what a reliable authority told him, and that reliable authority will cite somebody else. These birds are pugnacious, quarrel more or less among themselves and undoubtedly drive other birds away that attempt to take possession of the localities where they live. From reports we are obliged to believe that they do some damage in some localities by eating grain, but, notwithstanding this, the writer is of the opinion that they do

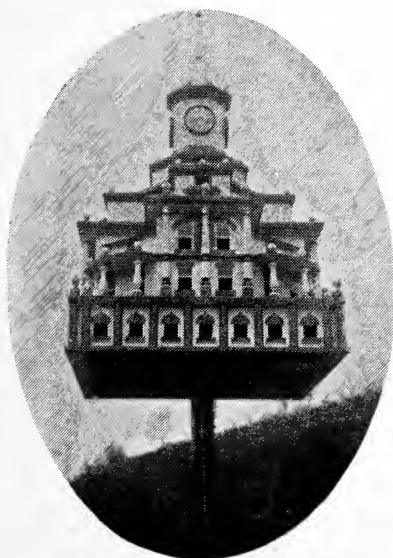
much more good in this state that they are given credit for. They are splendid scavengers in the cities, are cheerful friends during the long, winter months, often being the only wild animal life present, and are of little or no annoyance during nesting, except where an endeavor is made to attract strange birds. In such cases they certainly are troublesome. There is absolutely no reason for the killing of these birds in the cities, where most of the bounties are collected, and the endangering of human life by flobert rifles should never be tolerated as in the past.

Many persons have a strong prejudice against the English sparrow, without knowing why. Who can look at this bird with the temperature about the zero mark, hopping through the snow and chirping as happily as though it were a day in June, and say they despise it? They give cheer to many and brighten the lives of the disheartened and the ill, and afford amusement and inspiration to countless children.

Of course, it would be unfair to quote the documents of the U. S. Biological Survey where it speaks favorably, and to ignore their conclusions when adverse to any bird. The writer is keeping in mind what the bulletin entitled "The Relations of Sparrows to Agriculture" has to say regarding the English sparrow as a destroyer of grain. Dr. Judd, of the Survey, says that about one-third of their food, covering several states, consisted of useful grain, taken from farms, but he also shows that forty-nine per cent, or about one-half its food, consisted of grasshoppers that are harmful. That they destroy cut worms, fall web-worms, gypsy moths, tent caterpillars, tussock moths, and that they are most potent in keeping down the army-worms. Furthermore, they rid city parks of insects harmful to trees. These things are mentioned because many form a prejudice against this bird because they think it does no good and much harm.

At any rate, whatever may be the public attitude towards the species, Dr. Judd says, "It should be borne in mind that the bounty system has proved to be only an extravagant failure." The most effective way to destroy this sparrow is to break up their homes during the nesting season. This has been done in some localities with marked results. One or two men in a town could look after this, who know the

English sparrow and its nest when they see it, and the farmers could protect themselves likewise. Boys should never be allowed to do this kind of work. The shooting of English sparrows should be absolutely forbidden. A Grand Rapids daily, under an editorial entitled "The Sparrow Bounty," says: "The money paid for bounties is worse than thrown away. Not only does it not materially reduce the sparrow population, but is an encouragement of fraud and an incitement to acts of cruelty by boys," and ends the article by saying, "A war of extermination by boys with toy pistols and sling-shots should not be tolerated. Such a war is cruel to birds, bad for the boys and wasteful of the public funds." Let us unite in presenting these facts before our law-makers.



By courtesy of the Michigan Ornithological Club.

Martin House.



By courtesy of Shild's Magazine.

At the Salt Licks.

Useful and Harmless Animals

Many useful and practically harmless animals are destroyed because they commit some damage to crops or vegetables at certain periods of the year, without any thought being taken as to their value during the balance of the year. Others are destroyed because men find pleasure in hunting and killing. To read the pamphlets issued by Mr. Wm. T. Hornaday, of the New York zoological park, entitled "The Destruction of Our Birds and Mammals," is sufficient to make one ashamed of our country and civilization when considered by our relations to the lower animals.

For years the books for children on animal studies had most to say about lions, elephants, tigers and other animals of a ferocious type. To-day we are beginning to learn something of squirrels, raccoons, muskrats, foxes, chipmunks, frogs, snakes, moles and other common forms, including butterflies, bees, ants, wasps, gall flies and other insects. The fact that some of these forms of life prey upon others has furnished a reason for most men destroying any of them they may choose to select. This is not the reasoning of better minds, and it is to be hoped that the day is dawning when men will be above such reasoning.

Most of the books written in the past in regard to animals, especially those of a popular nature, have been written for the hunter, the greater portion being taken up with instructions on the best methods of trapping or hunting the various animals; how to prepare them for the pot, to skin or stuff them. Recently there has been an increase of the humane book, books of study of the characteristics of the wild animals in caring for their young, and the reasons why such animals should not be totally destroyed. However, the protection of wild animals has been mostly left to the sportsmen, who, becoming alarmed lest they may have nothing of a live nature to shoot, put a moderating check on themselves and their companions. The humane societies have given their attention mainly to children and the domes-

ticated animals and left the wild ones to the mercy of the hunter.

The principal reason for this is that those fond of nature in the past were not encouraged to study the animals they saw, but were taught to shoot them. Of course, they were obliged to learn much about them in order to be successful



By courtesy of Shield's Magazine.

Gray Squirrel.

huntsmen. But they did not study the animals for the sake of knowing them and getting acquainted with nature. Those who have had the humane interest developed and desired the protection of animals have known very little of the actual life of animals, and, consequently have been poor protectionists. With the advent of the nature study idea, there

came a desire to study the various forms of life, in order to better appreciate nature and enjoy the things that life presents.

Up to the present time, those partaking of the interest in nature study from the philosophical and humane standpoint, have had comparatively little opportunity to get acquainted with what were common wild animals a few years since, because of their scarcity. They probably will be scarce until those persons develop a strong desire to protect these animals. Of course, reforms in this direction will come slow, as men have been accustomed to hunting for the pleasure of killing from the earliest times, and, of course, it would be unreasonable to expect a rapid reformation. Books like that of "Animal Rights" by H. S. Salt are logical. The reform sought is, however, one for the centuries instead of an age. The argument is considered extreme, even to the majority of our advanced philanthropists. He argues against the eating of all forms of animal life, not because of the cruelty of killing, but because it tends to brutalize man and keep us in a semi-barbarous state. This argument stands good for the coming centuries. The time will probably come when civilized man will look back with horror on the centuries of animal slaughter.

However, most of us are brought up to meat eating, and few of us have to do the killing. Custom is confirmed habit, and habit, Prof. James, of Harvard, says, is man, is life itself. Some reformers are starting out with the idea of insisting on the absolute rights of all animals. This is too much to work for. Most of the successful crusades end in compromise and reformers who do not expect too much, accomplish the most. This society has been criticised and called inconsistent because we have agreed to the taking of birds for scientific purposes. We are said to be favoring a few, but then there is something to be considered in the aim sought. Besides, it is better to secure a good law, which is beneficial to the form of life sought to be protected, and to get the support of scientists, than to let matters drift.

In protecting the wild animals, it is necessary to consider the customs of sportsmen and make the best compromise possible. By this method you will get strong sup-

porters instead of having a powerful enemy to oppose. Sportsmen who want to be unmolested will attempt to argue you out of protective notions by telling you the skunk steals chickens, that raccoons get into the corn, that muskrats have been known to destroy gardens, that rabbits, if common, eat too much grass to be tolerated; that the woodchuck, squirrels, beavers and the remaining tribe of wild animals are useless. To this it is well to be able to show some of the usefulness of these animals, for this seems to be the test. It is still the common notion that the earth was made specially for man and to think that other animals have no rights. It is well not to take the opinion of hunters as to the value of any animal, but to know for oneself, to inquire of the well-known scientists of the state and consult the authoritative literature.



Courtesy of Shield's Magazine.

Young Crows

Books, Etc. for Study and References

Many inquiries are made regarding books, as to their value and reliability. The nature books are beginning to assume a proper place among our literature. There have been a number published that have mistakes, some of them serious, though for the most part they have been correctly written. One serious mistake, or a few minor ones, are sufficient to bring condemnation on a book. Most of these books were hastily compiled, without sufficient data for all statements made.

Students of our day have the advantage of the mistakes made by those who have gone before, and have improved means for study. Therefore, as a rule, present day students are enabled to give more accurate results. The pioneers of ornithology, Audubon, Wilson and Gilbert White, will always have a place and their works will live, but the books of many of the intermediate writers will become next to worthless.

However, there are many excellent works in circulation that cannot be noted here because of lack of space.

Many of those which have stood the test of time are mentioned, but the majority are recent. Of the former, most of them have been revised and are kept up to date and in a sense are recent. Details of the methods of treating the subjects are not given. Anyone contemplating buying a book on birds or animals better write the publishers for details of each book advertised.

We had hoped to announce a book on the birds of Michigan. Prof. Walter B. Barrows, of the Michigan Agricultural College, has such a work in preparation, which we trust will soon be available for students. Prof. Barrows was formerly connected with the United States Biological Survey, and wrote bulletins on the crow and the English sparrow. Prof. Barrows is considered one of the leading

ornithologists in the United States, and his book should prove of the greatest benefit to Michigan students. The Michigan Audubon Society desires to thank Prof. Barrows for the active interest he has shown in bird protection and the assistance he rendered the Audubon Society in securing our present law.

Before reviewing the books mentioned below, it may be well to call attention to the educational leaflets of the National Audubon Society. Those in color may be had for \$1.00 per hundred, the others for \$3.00 per thousand. There are also many other valuable leaflets, such as on the organization of school Audubon clubs (How to Organize. By Gilbert H. Trafton); "Save the Birds." By Wm. Dutcher, National President of the Audubon Societies, etc. All Audubonists should read, "Audubon Societies in Relation to the Farmer," by Henry Oldys, Biological Survey, Washington, D. C., sent free.

"Bird-Lore" is the official organ of the National Society, which is composed of the various state organizations. This magazine issues plates in color, contains valuable information, and is worthy of support of all bird lovers. The price is \$1.00 yearly for 6 numbers. Forward subscriptions to Frank M. Chapman, editor, American Museum of Natural History, New York.

Books for Beginners.

"Bird Life," by Frank M. Chapman. A reliable guide to the study of our common birds, illustrated; one of the most interesting books on the subject. D. Appleton & Co., New York. Price, \$2.00.

"The First Book of Birds;" "Second Book of Birds." By Olive Thorne Miller. Are commonly used as elementary works, and are recommended by teachers. Houghton, Mifflin & Co., Boston. Price, \$1.00 and \$1.10, respectively.

"Stories of Bird Life," by T. Gilbert Pearson, is a good healthy book, full of interesting matter. Used in many schools. B. F. Johnson Pub. Co., Richmond, Va. Price, 60 cents.

"Citizen Bird," by Mabel Osgood Wright, is an excellent



KILLDEER

Order—LIMICOLÆ
Genus—ÆGIALITIS

Family—CHARADRIIDÆ
Species—VOCIFERA



guide for children and covers sufficient ground to give a general grasp of the subject of birds. The Macmillan Co., New York. Price, \$1.50.

Books for General Reading.

"Birds in the Bush". By Bradford Torrey. Houghton, Mifflin & Co., Boston. All of Mr. Torrey's works are excellent.

"Birdland Echoes." By Jacob Abbott. J. B. Lippincott, Philadelphia. Price, \$1.50.

"Wake-Robin." By John Burroughs. Houghton, Mifflin & Co., Boston. Mr. Burroughs's works are all accurate and are inspired with the nature charm.

"Wild Life of Orchard and Field." By Ernest Ingersoll. Harper & Bros., New York.

"Walden" and other books. By Henry Thoreau. Thoreau is one of the pioneer nature students. His works are considered classics and should be read by all nature lovers.

For Advanced Students.

"Manual of North American Birds." By Robert Ridgway, of the Smithsonian Institution. Considered the most reliable manual by many advanced students. Rather technical, except for those thoroughly versed in ornithology. J. B. Lippincott, Pub., Philadelphia. Price, \$7.50.

"Key to North American Birds." By Elliott Coues. For advanced students. The descriptions are not technical and the work is commonly used by those amateurs who keep a constant interest in bird study. Dana, Estes & Co., Boston. Price, \$10.00.

"The Bird, Its Form and Function," by C. William Beebe. This is a history of the evolution of bird life, the structure of birds, and the uses of its various parts. Henry Holt & Company, New York. Price, \$3.50.

The same company announce a work now in press entitled "Birds of the World," by Frank H. Knowlton, Frederick A. Lucas and Robert Ridgway.

**Specially Adapted for Teachers, and Those Who Desire to
Become Ornithologists.**

"Birds of Eastern North America," by Frank M. Chapman. Illustrated both field key and colored key. Used extensively. On this account is considered by many as desirable, as the students in the various parts of the country refer to it and understand each other. D. Appleton, New York. Price, \$3.00; pocket edition, \$3.50.

"Birds of the United States," by Austin C. Apgar. Illustrated. Goes into details in regard to size and shape of beak, toes, wings and tails. Explains technical terms. The purpose of the book is to identify each bird by differentiating from others. It does not enter into the life of the bird or its habits. American Book Co., Chicago. Price, \$2.00.

"Birds of the United States and Canada," by Thomas Nuttall. Revised by Montague Chamberlain. One hundred and ten birds are given in the natural colors. The text gives the color, characteristics, and describes the nest and eggs of each bird and is followed with a popular biography of each species. Little, Brown & Co., Boston. Price, \$3.00.

"Our Own Birds," by William L. Bailey. An excellent natural history of birds, following a scientific outline, with descriptions and biographies in non-technical terms. J. B. Lippincott & Co., Philadelphia. Price, \$1.25.

For Teachers and Schools.

"Bird Day; How to Prepare for It," by C. A. Babcock, the originator of bird day in the schools. It is one of the most helpful books to the teacher. Besides giving directions for bird study, it has biographies of many common species. Silver Burdett Co., Chicago. Price, 50 cents.

"How to Attract the Birds," by Neltje Blanchan. Doubleday, Page & Co., New York. Price, \$1.35. An excellent book for teachers and helpful for advanced children.

"Bird Study in the Rural School," by Thomas L. Harkinson, Eastern Illinois State Normal School, Charleston, Ill. An excellent bulletin on outline work for teachers in bird study. Distributed free.

"Stories of Bird Life," by T. Gilbert Pearson. (See heading "Books for Beginners.")

"Young Folks' Nature Field Book," by J. Allen Loring. (See heading "Books on Animals Generally.")

"Our Native Birds; How to Protect Them and Attract Them to Our Homes," by D. Lange. Macmillan Company, New York. Price, \$1.00. The title is sufficient to explain the nature of the book. It contains a chapter on bird protection.

Home Life of Wild Birds.

"Bird Homes," by H. Radcliffe Dugmore. Illustrated by many photographs, mainly of eggs and nests and the young birds. Birds building the same form of nest and of like material are grouped. Doubleday, Page & Co., New York. Price, \$2.00.

"The Home Life of Wild Birds," by F. B. Herrick, is well spoken of. The writer has not had a chance to review the book. G. P. Putnam's Sons, New York. Price, \$2.00.

"Nestlings of Forest and Marsh," by Irene Grosvenor Wheelock. A study of the life of young birds, with photographs. McClurg & Co., Chicago. Price, \$1.20.

Economic Study of Birds.

"Birds in Their Relation to Man," by Clarence M. Weed and Ned Dearborn. Probably the most valuable book in circulation regarding the economic value of bird life. The advanced agriculturists would find this of great value. J. B. Lippincott. Price, \$2.50.

"How Birds Affect the Farm and Garden," by Florence A. Merriam. Every student should have this booklet. It is in paper cover, published by Forest and Stream Pub. Co., New York, and costs 5 cents. The title fully explains the work.

"Some Benefits the Farmer May Derive from Bird Protection," by T. S. Palmer. Distributed free by the U. S. Biological Survey, Washington, D. C.

"The Protection of Our Native Birds," by Thos. H. Montgomery, Jr. University of Texas Bulletin. Sent for 4 cents postage.

"Some Common Birds in Their Relation to Agriculture," by F. E. L. Beal, United States Biological Survey, Washington, D. C. Distributed free. Illustrated. One of the most important documents issued.

"Hawks and Owls from the Standpoint of the Farmer," by A. K. Fisher, U. S. Department of Agriculture. Sent without cost.

"The Grouse and Ducks of the United States, and Their Economic Value," by Sylvester D. Judd. Biological Survey, Washington, D. C. Distributed free.

"The Economic Value of the Bobwhite," by Sylvester D. Judd. Biological Survey, Washington, D. C. Free.

"How Birds Affect the Orchard," by F. E. L. Beal, Biological Survey. No charge.

"The Food of Nestling Birds," by Sylvester D. Judd. Biological Survey, Washington, D. C. Free.

"Food of the Bobolink, Blackbirds, Etc., by F. E. L. Beal. Biological Survey, Washington, D. C. Free.

"The Relation of Sparrows to Agriculture," by Sylvester D. Judd. Biological Survey, Washington, D. C. Free.

Special Books and Bulletins.

"Field Book of Wild Birds and Their Music," by F. Schuyler Mathews, is an excellent pocket guide, but would prove especially helpful to the student who has had musical training, as the author attempts to interpret the music of many birds. Most of the colored pictures of the birds in the book are good. G. P. Putnam's Sons, New York Price, \$2.00.

"Distribution and Migration of North American Ducks, Geese and Swans," by Wells W. Cooke, Biological Survey, Washington, D. C. Distributed free.

"The Vanishing Game Birds—The Woodcock and Wood

Duck," by A. K. Fisher. Biological Survey, Washington, D. C. Sent free.

"The Warblers of North America," by Frank M. Chapman; in colors; is announced by the Macmillan Co. Price, \$3.00.

"Hunting Licenses, Their History, Objects and Limitations," by T. S. Palmer. Biological Survey, Washington, D. C. Sent free.

"The Destruction of Our Birds and Mammals," by Wm. T. Hornaday. One of the most logical treatises looking toward protection of animals generally. Address New York Zoological Society, 11 Wall Street, New York City. Price 15 cents.

Books on Animal Life Generally.

"American Natural History," by William T. Hornaday. This is one of the most important works on the market in the way of a brief natural history of American mammals and birds. It is well illustrated. Charles Scribner's Sons, New York. Price, \$3.50.

"Friends and Helpers," by S. J. Eddy. The object of the book is to give general information in regard to domestic animals and birds and proper treatment of the same. It is recommended for schools and children's clubs. It is indorsed by the American Humane Association. Ginn & Co., Boston. Price, 15 cents.

"The Life of Animals," by Ernest Ingersoll. This book is general in its nature, covering the various forms of wild animal life. The data in regard to our common animals is instructive and interesting. The Macmillan Company, New York. Price, \$2.00.

"Young Folks' Nature Field Book," by J. Allen Loring. A short reading is given for each day of the year, descriptive of the life and habits of wild animals and birds. One-half of each leaf is left blank for notes. It is most interesting and useful and has a charm that draws one to nature and is valuable to old folks as well as the young. Dana Estes & Co., Boston. \$1.00.

"Animal Snapshots," by Silas A. Lottridge. Many of the common animals and birds are described and photographed. The book is partially from the standpoint of the huntsman, but the writer brings out the contrast of hunting animals and studying them. Henry Holt & Co., New York. Price, \$1.75.

"Half Hours with Lower Animals," by C. F. Holder. Treats mainly of sea life and our common insects. The volume is intended as a supplementary school reader. American Book Company. Price, 60 cents.

Stories of Animal and Bird Life.

"Bird World," by J. H. Stickney and Ralph Hoffman. A reader for intermediate grades. Illustrated. Ginn & Co., Boston. Price, 60 cents.

"Short Studies of Our Shy Neighbors," by M. A. B. Kelly. These stories and studies include familiar animals and birds. The book is used in schools. American Book Co., Chicago. 50 cents.

"Stories of Humble Friends," by Katherine Pyle. Gives glimpses of school life among insects, birds, domesticated and wild animals. Used as school reader. American Book Co., Chicago. Price, 50 cents.

"Jimmy Suter," by Martha James Lothrop. Lee & Shepard, Boston. Price, \$1.25. We name this book, though not strictly a nature work, because we consider such works suitable for libraries. It is meant for children and much space is given to methods of boys in organizing societies for bird protection.

Humane Literature.

The American Humane Education Society publish and distribute many leaflets on the care of animals and birds. They give especial attention to domesticated animals. Their work is especially helpful among children and schools. The children organize societies known as the Band of Mercy, the object being to teach kindness, justice and mercy to all animals. The information given in the leaflets of this society in regard to the proper food, care and treatment of horses,



BLUE JAY

Order—PASSERES
Genus—CYANOCITTA

Family—CORVIDÆ
Species—CRISTATA



dogs, cats, etc., is worth while knowing for adults as well as children. Write Geo. T. Angell, 19 Milk St., Boston. Also ask Humane Education Committee, 29 Exchange St., Providence, R. I., for maps for schools and humane educational literature.

M. L. Hall, 126 Ridge St., Providence, R. I., will send a full set of leaflets on receipt of 25 cents. Send stamp for price list.

The American Humane Association distributes leaflets as the above. They all appear to be associated in similar humane work. Write Mrs. Mary F. Lovell.

Maps for Schools, Public Libraries and Clubs.

Prang Educational Company, of Boston, publish an excellent map, showing twenty-six of our common birds in color. The map is of heavy linen. A booklet describing these birds written by Ralph Hoffman accompanies the map. Price, \$1.30.

A. W. Elson & Co., 146 Oliver street, Boston, Mass., publish a portrait of Audubon suitable for public schools and libraries. The cut used in the front of this book is a small copy of the portrait and was kindly loaned by this company.

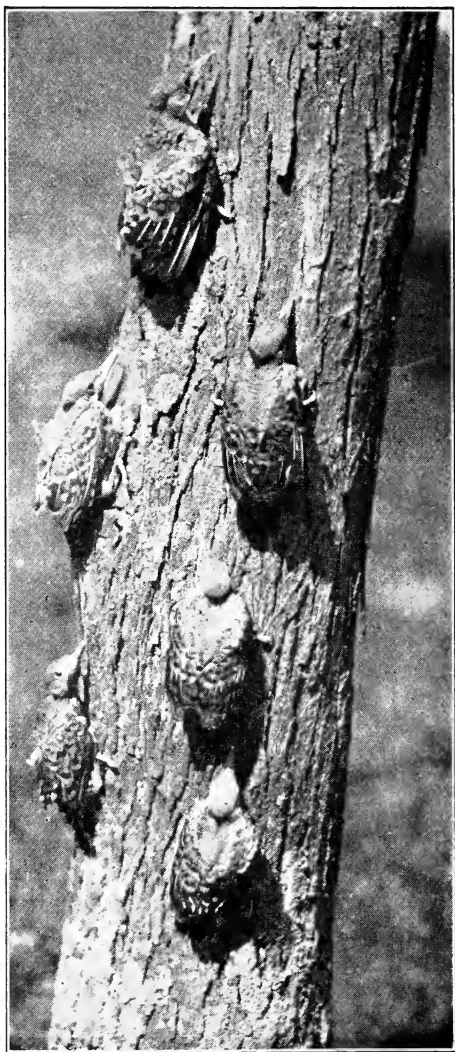
"Bird Note Book." This consists of tablets each containing lines for date and color of bird and circles in which the size of the bird may be given by making a cross. Outlines of the shape of the tail, etc., are given, all of which facilitate the taking of notes. Richard H. Gerberding is the designer and publisher, 1315 Waveland avenue, Chicago, Ill. Price, 35 cents.

It is well for the amateur to have some form of notebook, as they suggest many details that would be overlooked. There are so many birds so near alike that it is not well to depend on memory, as the student is likely to get confused when trying to identify from descriptions in the books.

Bird-Lore also issue a note book.

Our thanks are due to Shield's Magazine for the loan of cuts. Shield's Magazine is published at 1269 Broadway, New

York City, in the interest of sportsmen. The editor, Mr. Geo. O. Shields, is an ardent protectionist of both mammals and birds. His magazine officially represents the League of American Sportsmen.



By courtesy of Shield's Magazine.

Downy Woodpeckers.

By-Laws of Michigan Audubon Society

(Organized February, 1904.)

Article I.—Of Name.

The name of this Society shall be the Audubon Society of the State of Michigan.

Article II.—Of Objects.

It is the purpose of this Society (1) to disseminate information respecting the economic value of birds to agriculture, and their importance to the welfare of man; (2) To discourage the purchase or use of the feathers of any birds for ornamentation, except those of the Ostrich and domesticated fowls; (3) To discourage the destruction of wild birds and their eggs; to co-operate with societies and individuals in the protection of useful or harmless wild animals and in preserving the rights of domesticated animals; (4) To establish Bird Day exercises in the schools of the State of Michigan, in connection with the celebration of Arbor Day, and to encourage the introduction of bird study in schools.

Article III.—Of Members.

The Society shall consist of members, junior members, sustaining members, and life members. Any person is eligible for membership who is willing to subscribe to the principles of this Society.

Article IV.—Of Fees.

Members shall pay an annual fee of one dollar, except teachers in the schools of the State of Michigan, who shall become full members upon payment of 25 cents yearly or life members upon payment of one dollar at any time. Junior members shall pay an entrance fee of ten cents, and shall consist of persons under the age of eighteen years. Sustain-

ing members shall pay an annual fee of five dollars. Any person may become a life member on payment at one time of twenty-five dollars to the Treasurer of the Society.

Article V.—Of Officers.

Section 1.—The officers of the Society shall be a President, Honorary Vice-Presidents, not to exceed twelve in number, a General Secretary-Treasurer and an Executive Committee, or Council, consisting of not more than twelve members, of which the President and Secretary-Treasurer shall be *ex-officio* members.

Section 2.—These officers shall be elected at the annual meeting, and shall remain in office until the close of the meeting at which their successors are chosen.

Section 3.—The Executive Committee shall have power to accept resignations from its body, and to fill vacancies in its membership, and shall elect its Chairman, who shall be chosen at the annual meeting of the Committee.

Section 4.—The duties of the several officers and the Executive Committee shall be to transact any business they deem necessary for the advancement of the objects of the Society.

Section 5.—Local Secretaries may be appointed by the Executive Committee, and shall be under the general supervision of the Secretary-Treasurer.

Article VI.—Of Meetings.

Section 1.—The annual meeting of the Society shall take place in the month of January, at a day and place fixed by the Executive Committee.

Section 2.—A notice of the annual meeting shall be sent ten days in advance to all the Executive and Honorary officers of the Society, and such notices shall also be given in the daily press as the Executive Committee may direct.

Section 3.—The annual meeting of the Executive Committee shall be held as soon as practicable after the annual meeting of the Society. The regular business meetings of the

Committee may be called by the President or Chairman of the Executive Committee, or on the written request of three members of the Executive Committee. The President, or in his absence the Chairman of the Executive Committee, shall preside at all meetings. Five members shall constitute a quorum.

Article VII.

Amendments to these By-Laws may be made by a two-thirds vote of the Executive Committee present at any meeting, provided written notice of the proposed change shall have been sent by mail to every member of the Executive Committee not less than ten days previous to said meeting.

Address Jefferson Butler, Secretary-Treasurer, 25 Elizabeth St. West, Detroit, Mich.



By courtesy of Shield's Magazine.

Spotted Sandpiper on Nest.

Michigan Game Laws

An Act to revise and amend the laws for the protection of game and birds.

(Act 257, P. A. 1905.)

The People of the State of Michigan enact:

(384.) Section 1. That all wild animals and wild birds, both resident and migratory, in this State, shall be, and are hereby declared to be, the property of the State.

Sec. 385. Relates to deer.

Sec. 386. Relates to deer.

Sec. 387. Relates to deer.

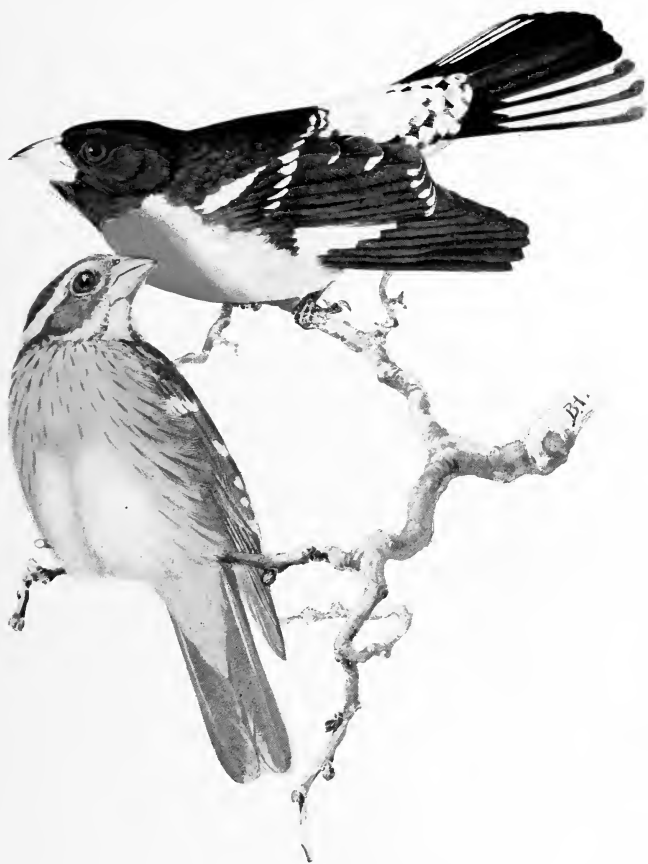
(388.) Sec. 5. No person shall by himself, his clerk, servant or agent, expose or keep for sale, or directly or indirectly, upon any pretense or device, sell or barter, or in the consideration of the purchase of any other property, give to any other person any of the protected animals or birds mentioned in this act within the State of Michigan, nor shall any person or persons, or any corporation acting as a common carrier, its officers, agents or servants, ship, carry, take or transport, either within or beyond the confines of this State, any animal or animals, or portion or portions thereof, or bird or birds protected by this act, except as hereinafter provided: Provided, however, That it shall be lawful to ship, and any corporation acting as a common carrier, its officers, agents or servants may lawfully ship, carry, take or transport either within or beyond the confines of this State any such animal or animals or portion of portions thereof or bird or birds which may be consigned at any station in this State to any consignee in said State, where the nearest railroad route from such shipping point to any such destination within the State, leaves the confines of the State and re-enters the same.

Sec. 389. Relates to deer.

Sec. 390. Relates to deer.

Sec. 391. Relates to deer.

Sec. 392. Relates to deer.



ROSE-BREASTED GROSBEAK

(UPPER FIGURE, MALE; LOWER FIGURE, FEMALE)

Order—PASSERES
Genus—ZAMELODIA

Family—FRINGILLIDÆ
Species—LUDOVICIANA



(393.) Sec. 10. No person shall kill, capture or destroy, or attempt to kill, capture or destroy by any means whatever, any mourning dove, or any Antwerp or homing pigeon within the limits of this State. It shall be unlawful to kill or capture, or attempt to kill or capture by any means whatever, any pinnated grouse, commonly called prairie chicken, or any Mongolian or English pheasants or any black fowl or capercailzie or any hazel grouse or any wild turkey or any wild pigeon until the year nineteen hundred ten and then only at the time, in the manner and for the purpose authorized by law.

(394.) Sec. 11. No person shall injure, kill or destroy, or attempt to kill, injure or destroy by any means whatever, partridge, commonly called quail, until the fifteenth day of October, nineteen hundred seven, except as hereunder permitted, and then and thereafter only between the fifteenth day of October and the thirtieth day of November, both inclusive, in each year, and it shall be unlawful during said last mentioned period for any person to kill more than twelve quail in one day, and it shall be unlawful for any person to have in his possession or in the possession of any person, firm or corporation for him at one time, more than fifty such bob white or Virginia partridge, commonly called quail.

(395.) Sec. 12. No person shall injure, kill or destroy, or attempt to kill, injure or destroy by any means whatever, any ruffed grouse, commonly called partridge, or any spruce hen, save only from October fifteenth to November thirtieth, both inclusive, in each year: Provided, however, That in the Upper Peninsula ruffed grouse, commonly called partridge, and spruce hen, may be killed from October first to November thirtieth, both inclusive, in each year. And it shall be unlawful during the periods last above in this section mentioned, for any person to kill, injure, destroy or capture by any means whatever, a greater number of ruffed grouse or spruce hen than twelve in one day, and it shall be unlawful for any person to have in his possession or in the possession of any person, firm or corporation for him at any one time, more than fifty ruffed grouse or more than fifty spruce hen.

(396.) Sec. 13. No person shall injure, kill or destroy or attempt to injure, kill or destroy by any means whatever,

any kind of wild duck, snipe, plover, woodcock, or any kind of wild water fowl save only from September first in each year to January first of the year following, both inclusive, and then only from one-half hour before sunrise until one hour after sunset of each day: Provided, however, That in addition to the open season for wild fowl shooting hereinbefore in this section established, it shall be lawful to hunt and kill blue bill, canvass back, red head, widgeon, pintail, whistler, spoon bill and butter ball ducks between the fifteenth day of March and the tenth day of April, both inclusive, in each year: And provided further, That it shall be lawful to hunt and kill wild geese, brant, and saw-bill ducks between the first day of September in each year and the first day of January in the year following, and from the fifteenth of March to the tenth of April. No person or persons shall hunt, pursue, worry or kill any wild water fowl by any means whatever during such time, as said person or persons are upon any floating device, or contrivance, propelled by or using as motive power steam, gas, naphtha, oil, gasoline or electricity, or when upon any sail boat, nor shall any person or persons make use of any swivel or put gun for the killing of any wild water fowl, or make use of any battery, sink boat, or similar device whatever, save only a gun of not greater size than ten gauge, such gun to be held in the hands at the time of firing, and it shall be unlawful for any person to kill in any one day more than twenty-five game fowl or birds mentioned in this section. And it shall be unlawful for any person at any one time, to have in his possession or in the possession of any person, firm or corporation for him, more than seventy-five such game fowl or birds.

(397). Sec. 14. No person or persons shall at any time make use of any pit, pitfall, deadfall scaffold, cage, snare, trap, net, baited hook, or any similar device, or any drug, poison, chemical or explosive, for the purpose of injuring, capturing or killing any birds or animals protected by the laws of this State, nor shall any person at any time or in any manner whatever, injure, or destroy or rob the nest, or take, injure or destroy, or have in possession the eggs of any bird protected by the laws of this State; or molest, harass or annoy such birds upon their nests, except as herein provided.

(398.) Sec. 15. No person or persons shall molest, harass or annoy or break, train or practice, any dog upon any game bird, or animal referred to in this act during their respective close seasons: Provided, That it shall be lawful for any person or persons to train or practice dogs upon game birds for fifteen days next preceding the opening of the ruffed grouse season in each year: Provided further, That it shall be unlawful for any such person to have in his possession any firearms while so engaged in training and practicing such dogs. Excepting, however, that the State Game and Fish Warden may in his discretion issue to any bona fide field trial association within this State a permit to kill not to exceed twenty-five quail in any one year in connection with the field trial exhibition of such field trial association.

(399.) Sec. 16. For the purpose of this act, the following shall be considered game birds: The Anatidae commonly known as geese, brant and wild ducks; the Rallidae commonly known as rails, coots and gallinules; the Limcolae commonly known as shore birds, snipe, woodcock, plover, sandpipers, tatlers and curlews; the Gallinae commonly known as wild turkeys, pheasants, grouse, prairie chickens and quail. All other species of wild resident or migratory birds shall be considered non-game birds.

(400.) Sec. 17. No person within the State of Michigan shall kill, catch, or have in his or their possession any resident or migratory wild non-game bird, living or dead, or purchase, offer, or expose for sale, any such wild non-game bird, after it has been killed or caught, except as permitted by this act, and no part of the plumage, skin or body of any non-game bird protected by this act shall be sold or had in possession for sale, and this irrespective of whether said bird was captured or killed within or without this State, and no person within this State shall take or destroy, or attempt to take or destroy, the eggs of any wild bird, or have the eggs in his or their possession, except as permitted by this act.

(401.) Sec. 18. Section seventeen of this act shall not apply to any persons holding a certificate giving the rights to take birds, their nests or eggs, for scientific purposes as hereinafter provided. Such certificates may be granted by a board, to consist of three persons who shall be appointed

annually, one by the president of the University of Michigan, one by the president of the Michigan Agricultural College, and one by the president of the State Normal College. Such board shall report annually on the first day of December, in writing, to the governor, giving a detail of permits issued, amount of moneys received and how disbursed and any surplus over actual necessary expenses shall be turned over to the State Treasurer and credited to the general fund. Such appointments shall be made on or before the fifteenth day of December in each year and the term of office of such appointee shall commence on the first day of January of the year following such appointment and shall continue for one year from and after said date, last mentioned. To any person above the age of fifteen years, who shall present written testimonials from two reputable ornithologists, certifying to the good character and fitness of said applicant to be entrusted with such privilege, such permit may be issued: Provided, That but one permit be issued to any one person and then only authorizing the person holding such permit to take one pair each of the birds and one nest and one nest of eggs of the kind of birds specified in such certificate: Provided further, That the board, upon issuing such permits, shall keep a record of the same and immediately notify the State Game and Fish Warden of the issuing of each permit, which notice shall state the name and age of the holder of the certificate and the kind of birds, nests and eggs authorized to be taken and the place or places where they propose to hunt the same. A fee of one dollar shall accompany such application for certificate. Such fee of one dollar shall go to said board to cover its necessary expenses. On proof that the holder of said certificate has violated the provisions of this act and has collected for other than scientific purposes, he shall be punished upon conviction of such offense as provided in section twenty-nine of this act. The certificates authorized by this act shall expire on the last day of December of the year of issuance and shall not be transferable, and shall not authorize the holder to take any blue bird or its nest or eggs, any kirtland warbler its nest or eggs, any scarlet tanager its nest or eggs, or any red-breasted grosbeak its nest or eggs: Provided, That no person shall by himself, his

clerk, servant or agent, expose or keep for sale, or directly or indirectly, upon any pretense or any device, sell or barter, or in consideration of the purchase of any other property give to any person any of the birds, or any part of the birds taken under the provisions of this section.

(402.) Sec. 19. English sparrows, black birds, crows, coopers hawks, sharpshinned hawks and great horned owls are not included among the birds protected by this act: Provided, That said birds are not sold or offered for sale or shipped beyond the confines of this State.

(403.) Sec. 20. No person shall have in possession the dead body or carcass or skin, or any portion thereof, of any animal or bird mentioned or referred to in this act during the time when the killing of such animal or bird is unlawful, except as authorized by law, and excepting specimens, heads or pelts, prepared or mounted for scientific or educational purposes: Provided, however, That any person may have in his possession for five days after the closing of the season, game birds and animals lawfully killed during the open season: Provided further, That any person engaged in rearing any of the animals mentioned in this act, within an enclosure, may kill for his own use and consumption at any time any of the said animals, and may sell and transport alive any of the said animals, when accompanied by a permit from the State Game and Fish Warden; and it shall be the duty of the said State Game and Fish Warden to issue such permits upon application, when satisfied that such animals were so reared within an enclosure.

(405.) Sec. 22. In all prosecutions for a violation of any of the provisions of this act, the person or persons claiming the benefit of section twenty must show affirmatively as a part of his defense on the examination or trial, that the animal or bird of which the dead body or carcass or skin, or any portion thereof, is shown to have been in his possession during the time when by law the killing of such animal or bird is unlawful, was killed at a time, and in the manner, and for the purpose authorized by law, and that his possession at the time complained of was for one of the purposes authorized by said section, and it shall not be necessary for the

prosecution to aver or prove that such possession was not for the purposes authorized by said section.

(407.) Sec. 24. The injuring, destruction or killing or capturing or selling, or having in possession of each animal or bird injured, captured, killed or destroyed, sold or possessed contrary to the provisions of this act shall be a separate offense and the person so offending shall be liable to the penalties and the punishments herein provided for each offense. In all prosecutions for a violation of any of the provisions of this act, proof of the possession of the dead body, carcass or skin, or any portion thereof, of any animal or bird mentioned or referred to in this act, except as hereinbefore provided at a time when the killing thereof is unlawful, shall be prima facie evidence that such animal or bird was killed at a time when the killing thereof was prohibited by law. All persons violating any of the provisions of this act, whether as principal, agent, servant or employe, shall be equally liable as principal, and any person or principal shall be liable for any violation of any of the provisions of this act, by his agent, servant or employe, done under his direction or knowledge.

(408.) Sec. 25. The State Game and Fish Warden is hereby given authority to issue permits to any person to take, capture or kill any animal or game bird mentioned in this act, at any time when satisfied such person desires the same exclusively as specimens or for scientific or propagating purposes. Such permit shall be in writing and shall state the kind and number to be taken, the manner of taking, the name of the person to whom issued, and shall be signed by him, and shall have attached the seal of his department; such permit shall not be transferable, nor shall it be lawful to sell or barter any of the game birds or animals taken under such permits, and the holder of such permit shall be liable to the penalties provided in this act if he violates any of the provisions. A fee of one dollar shall accompany all said applications, which amount shall be immediately forwarded to the State Treasurer and then credited to the State Game and Fish Warden fund.

(409.) Sec. 26. The State Game and Fish Warden may issue permits to the trustees or custodians of any public park to transport out of this State, any bird or animal held in such

park, when satisfied that such transfer is for the purpose of exchange with other public parks outside of this State; such permits shall not be transferable and shall be in writing, and issued under the seal of his department, and shall state the name and location of the public park, to whom issued, the name and location of the public park to which transferred, the kind and number of birds or animals for which exchange is made.

(410.) Sec. 27. The State Game and Fish Warden may, in his discretion, on application and the payment of a ten dollar fee, issue to individuals owning lands in this State, or bona fide members of clubs who own and maintain game preserves in this State, permits good for the yearly game season, to ship during the season fifty wild ducks or other migratory birds lawfully killed by him or them, on their own premises or the premises of the club of which he or they are members, to his or their respective homes out of the State: Provided, The shipper shall, in each case, make and attach to the package containing such game, his own affidavit, a duplicate copy of which he shall immediately cause to be mailed to the State Game and Fish Warden, setting forth that the wild game birds thus shipped, describing the same, were killed on his premises, or the premises of the club of which he is a member, describing and designating such premises, and that the game was killed by himself, and is not for sale and will not be offered for sale. Any violation of the privileges herein given shall at once work a forfeiture of the permit granted, and each and every person guilty of violating this section shall be punished as provided in section twenty-nine of this act. The money derived from the payment of fees prescribed in this section shall within ten days after the receipt thereof be forwarded by the State Game and Fish Warden to the State Treasurer, and deposited in the proper fund in the state treasury, and so much of said moneys as shall be so transmitted to the State Treasurer shall be paid out by the Auditor General on his warrant, but only in payment for services rendered by the State Game and Fish Warden and his deputies as allowed by law for such services and the necessary traveling expenses in enforcing the game and fish laws of this State, upon itemized bills duly certified

by the State Game and Fish Warden and allowed by the board of state auditors.

(411.) Sec. 28. It shall be the duty of the State Game and Fish Warden and all deputy wardens, sheriffs, deputy sheriffs and constables, to enforce the provisions of this act, and the Michigan Audubon Society, a body incorporated under the laws of the State of Michigan, may name four persons to represent such society in carrying out the provisions of this act. Each person so named shall be duly appointed by the Game and Fish Warden and shall be invested with and exercise all the powers of a deputy game warden, but shall receive no compensation therefor from the State of Michigan or any county thereof. It shall be the duty of the Michigan Audubon Society to assign territory to the persons selected by them to carry out the provisions of this act as above provided and to require a monthly report from each of such persons. Upon complaint that such person or persons so appointed are negligent in the duties assigned to him or them in carrying out the provisions of this act, the said Audubon Society shall report the fact to the Game and Fish Warden, who shall immediately remove such person or persons and upon recommendation of the Audubon Society shall make appointment to fill such vacancy. In pursuance of this provision the said Michigan Audubon Society shall file a bond with the Secretary of State in the amount of one thousand dollars, with sufficient sureties, approved by the Secretary of State.

(412.) Sec. 29. Any person or persons violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, for the first offense, shall be punished by a fine of not less than ten dollars and not exceeding one hundred dollars, together with cost of prosecution, or by imprisonment in the county jail not exceeding ninety days, or by both such fine and imprisonment in the discretion of the court, and for the second or any subsequent offense, shall, upon conviction, be punished by a fine of not less than fifty dollars and not to exceed two hundred dollars, or by imprisonment in the county jail not exceeding one year, or by both such fine and imprisonment in the discretion of the court, and in all cases when a fine and cost is imposed the

court shall sentence the offender to be confined in the county jail until such fine and costs are paid, for any period not exceeding the maximum jail penalty provided for such offense.

(413.) Sec. 30. Act number two hundred seventeen of the Public Acts of nineteen hundred one, and all acts or parts of acts in conflict with or inconsistent with the provisions of this act are hereby repealed.



By courtesy of Shield's Magazine.

Kildeer on Nest.

Notes on Legislation

The United States Biological says a bounty on English sparrows has proven futile in the states where tried; has led to inhumanity on the part of boys, and a great deal of fraud. It should be remembered that death and injury came to several boys as the result of the last state bounty law in Michigan. Mr. P. A. Taverner, an expert ornithologist of Detroit, says that such a law would benefit Ohio, Indiana and Canada, as much or more than Michigan, as English sparrows are quick to take up vacant territory and would soon flock from the overcrowded districts. The U. S. Department of Agriculture says that money spent in a sparrow bounty is wasted.

The meadow lark is sometimes killed as a game bird, but under our laws is classed as a song bird, and is absolutely protected. Senator Traver says that some sportsmen want this bird put on the game list. The U. S. Biological Survey has learned from examining the stomachs of the meadow larks that it is one of the greatest destroyers of insect pests and is worth on the average twelve dollars yearly to the farmer. These birds will live probably five or six years, and consequently each bird would be worth from sixty to seventy dollars to the state. It has been estimated that these birds increase the value of the grass crop \$336.40 in each township of 36 square miles during the grasshopper season. Their body is so small as to make them practically useless as food. Sportmen say they do not kill this bird for the food but for the sport. Such sport is rather expensive to the state. Besides the meadowlark is a song bird, and one of the most beautiful to look upon. The Audubonists throughout the country would protest against putting this bird on the game list.

The legislature should abolish the barbarous practice of pigeon shooting from traps. Many states have refused to recognize trap shooting of live pigeons as sport, and the practice has been abolished in the advanced European countries. The contest in trap shooting of pigeons that takes

place in Michigan every spring are anything but edifying, and should be forbidden, as such contests properly come under the head of cruelty. Men come from all parts of the country to take part in this butchery, from states where it is prohibited, and because of this Michigan is known as a backward state.

Quail should be protected absolutely in this state for at least two years. Properly speaking, they should be protected until such time as they may become a nuisance, if such time should ever arise, for the reason that the United States Biological Survey say that is one of the most valuable pest destroyers our country possesses, and each bird is valued as worth twenty dollars yearly to the state.

Kansas not only protected the quail by law, but it also enforced the law through its officials with the result that Kansas has quail to sell to the other states where they were destroyed.

The majority of our states as well as Canada has abolished spring shooting, for the reason that that is the season for breeding. It is reasonable to say that every game bird in the spring is equal to taking three or four in the autumn. The Canadian sportsmen say that if Michigan persists in spring shooting they will insist on spring shooting in their own country. Michigan cannot suffer by abolishing spring shooting for, say, four years, as an experiment. If Canada and the surrounding states allow an open spring season there will be little of either spring or fall shooting in four years.

There are always a few fishermen who would like to see the kingfish destroyed. The fact is that this bird is not common enough to materially damage the fishing in even a small stream. The last legislature refused to consider the advisability of destroying this bird, and we have every reason to believe that the present legislature will refuse to consider any such proposal if such is made.

Lastly, the game warden is entitled to a larger sum for the protection of game. He has been hampered for funds to carry on the work properly, and though his report for 1906 shows a surplus, yet this is because the work has been only half done. His office should receive all license fees collected for hunting, now paid to the various counties. This is only

fair. The Audubon Society of North Carolina receives all hunting license fees paid in the state, and undertake to fill the office of game warden for the state. The society receives about \$11,000 yearly in fees, which about meets the expense of game protection. The society makes public reports as to number of deputies engaged, the work they do, complaints made, cases prosecuted, fines levied. Whatever method is adopted in Michigan to raise money for game protection may matter little so long as sufficient is raised to carry on the work properly. The game warden should be obliged to give a full report of the work in the state at least yearly.

Licensing Committee

Section 18 of the Public Acts of 1905 provide that the president of the University of Michigan, the president of the Michigan Agricultural College, and the president of the State Normal School shall annually appoint a board of three persons who shall grant licenses for the taking of birds and their eggs for scientific purposes. The following have been appointed as such board, and have filled such position during 1906, and by reappointment are serving for 1907:

Bryant Walker, Detroit—Appointed by President Angell, of the University of Michigan.

Prof. Walter B. Barrows—Appointed by President J. L. Snyder, of the Michigan Agricultural College.

Prof. E. R. Downing, of the Northern State Normal School, Marquette—Appointed by President Lewis H. Jones, State Normal College.

Prof. Barrows is chairman.

There are those who consider it wrong to acquiesce in the passage of such a law, but the officers of both the National and local Audubon Society know that the scientific students usually work in the interests of birds, especially those connected with college work. They utilize the dead bird to the best advantage in educating the public as to the value of bird life. It is found to be much better to have a reasonable regulation in regard to the taking of birds than to drift without any law on the subject which would probably be the case if an agreement were not reached.



UPPER FIGURES—CHESTNUT-BACKED BLUEBIRD

Order—PASSERES

Family—TURDIDÆ

Genus—SIALIA

Species—MEXICANA

SUBSPECIES—BAIRDI

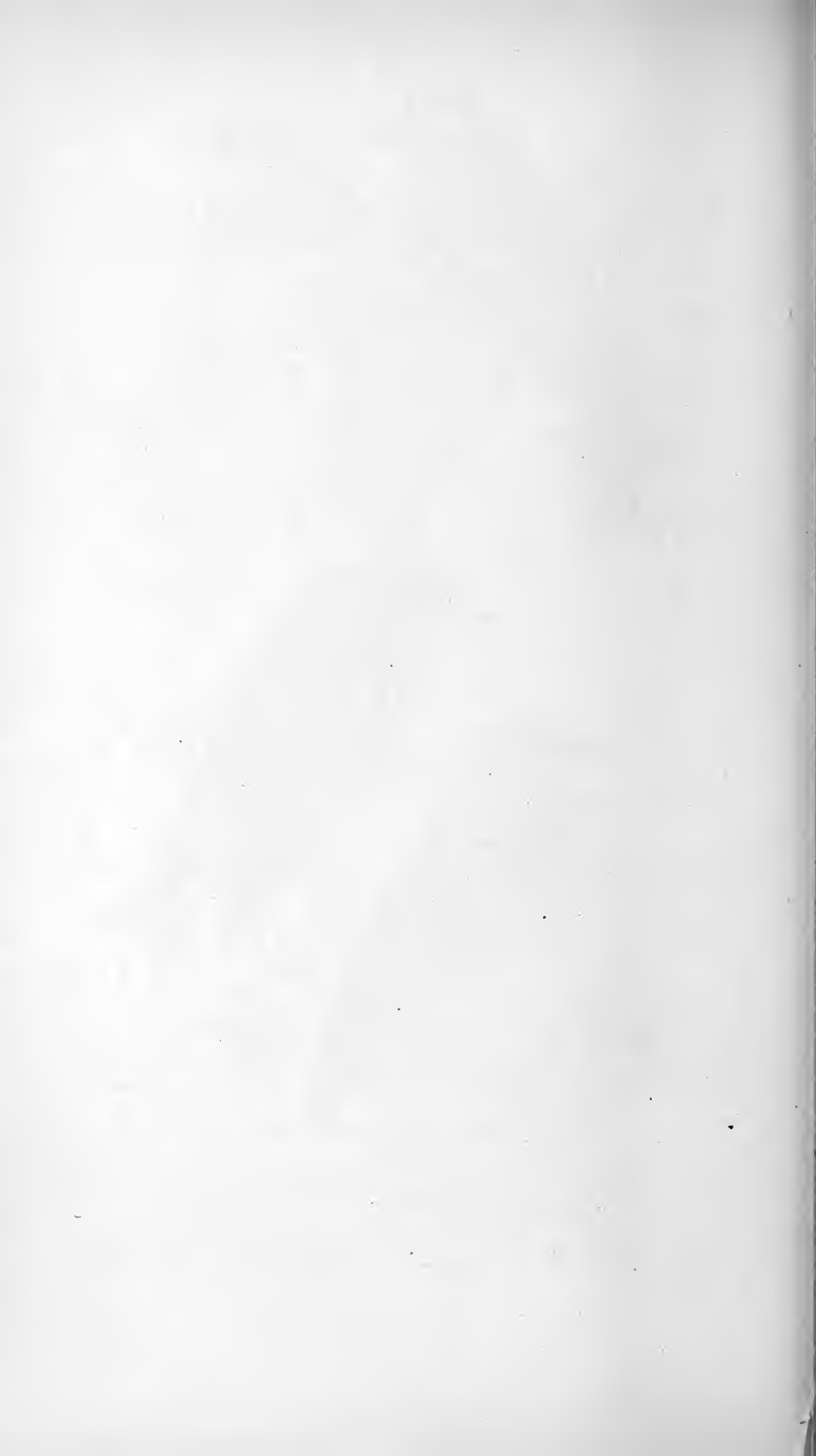
LOWER FIGURES—BLUEBIRDS

Order—PASSERES

Family—TURDIDÆ

Genus—SIALIA

Species—SIALIS



Officers, Members, Contributors, Etc.

OFFICERS.

WILLIAM AIKMAN, JR., Acting President, Detroit.

Vice-Presidents—CHASE S. OSBORN, Sault Ste. Marie.

WM. B. MERSHON, Saginaw.

PROF. E. R. DOWNING, Marquette.

L. WHITNEY WATKINS, Manchester.

JEFFERSON BUTLER, Secretary and Treasurer, Detroit.

The Society was incorporated October 31, 1905, under the laws of Michigan, with the following Board of Directors:

WILLIAM AIKMAN, JR., Detroit.

BRYANT WALKER, Detroit.

CLARA E. DYAR, Grosse Pointe.

CATHARINE GUNDRUM, Ionia.

JEFFERSON BUTLER, Detroit.

HON. PETER WHITE, Marquette.

BESSIE M. NEWMAN, Detroit.

H. E. SARGENT, Grand Rapids.

C. L. RING, Saginaw.

LOCAL SECRETARIES.

Battle Creek—EDWARD ARNOLD.

Rochester—W. H. BROTHERTON.

Kalamazoo—DR. MORRIS GIBBS.

Port Sanilac—MISS HARRIET W. THOMPSON.

Ionia—MRS. CATHARINE GUNDRUM.

Muskegon—MISS MARGARET A. KELLY.

Marcellus—MRS. ANNA WALTER.

Dowagiac—MRS. IDA CODDING.

Grand Rapids—MRS. FRANCES R. BEATTIE.

Manistique—MRS. A. S. PUTNAM.

Grosse Pointe—MISS CLARA E. DYAR.

Jackson County—L. WHITNEY WATKINS, Manchester.

Monroe County—B. E. BULLOCK, Samaria.

Hastings—W. W. POTTER.

Saginaw—WM. B. MERSHON.

CONTRIBUTING MEMBERS.

CHARLES L. FREER, Detroit, \$25 yearly for protection of game birds.

MRS. R. ADLINGTON NEWMAN, Detroit, presented the Society with stereopticon and 12 slides, and has contributed liberally toward lectures, entertainments and literature.

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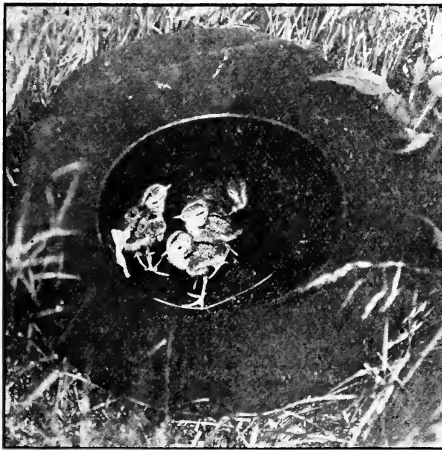
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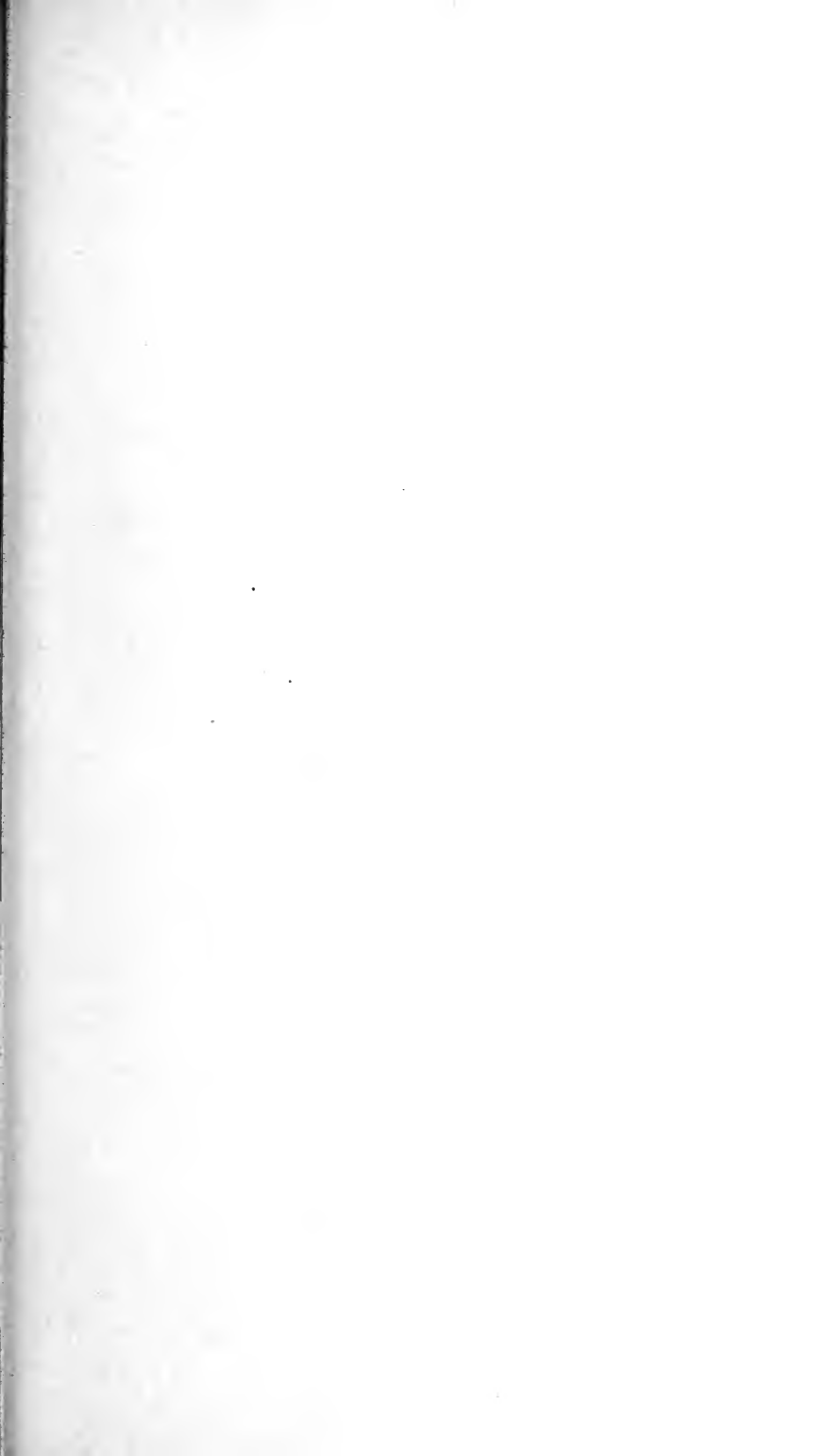
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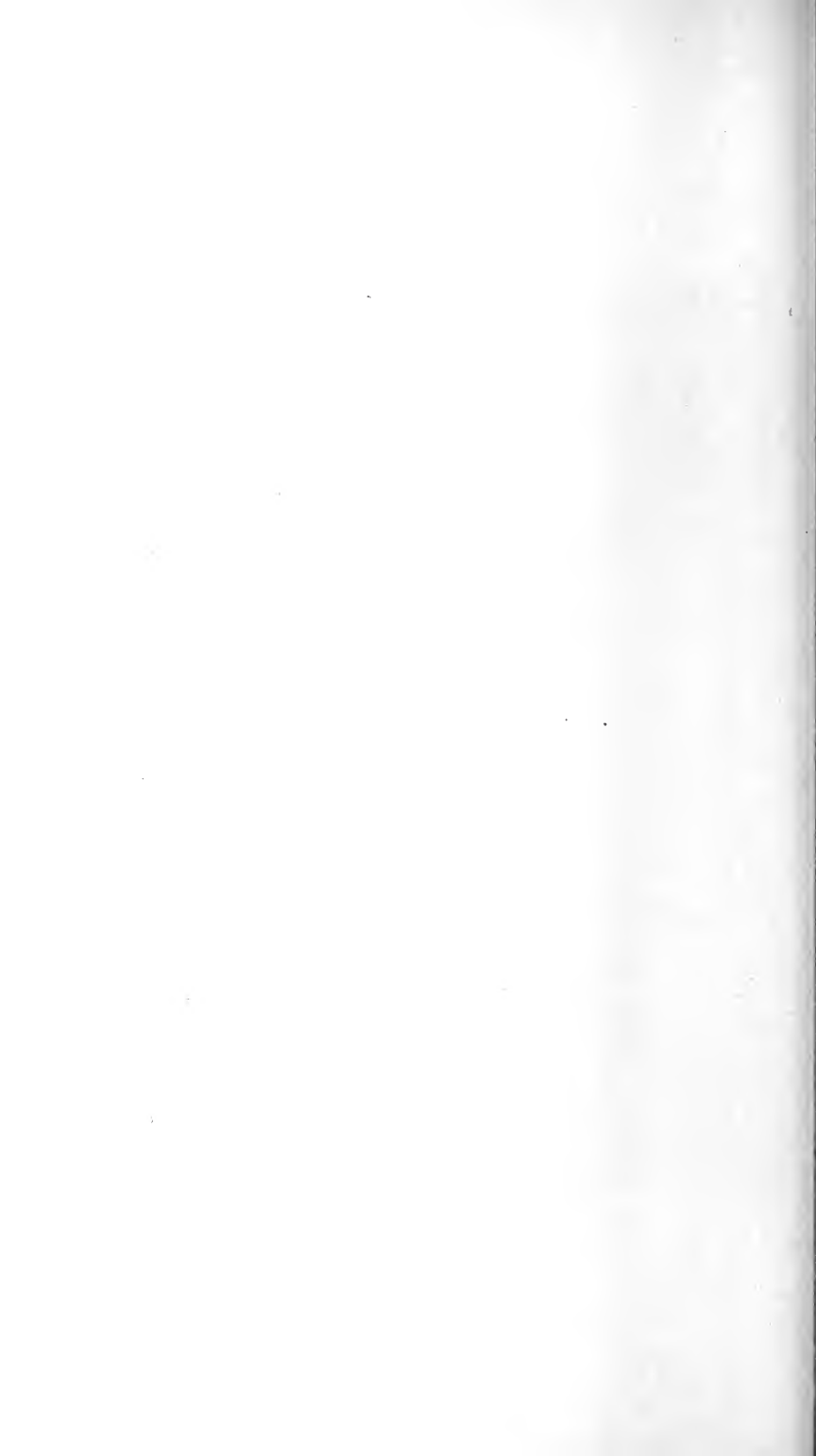
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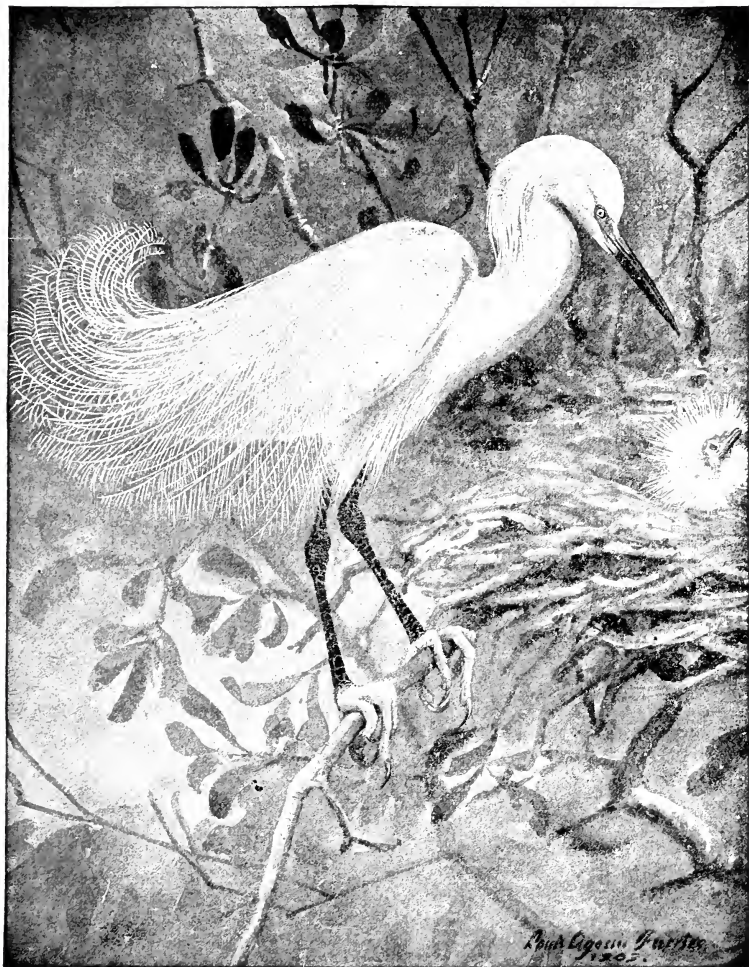
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NATIONAL COMMITTEE OF AUDUBON SOCIETIES

EDUCATIONAL LEAFLET NO. 7



THE SNOWY HERON

Order—*Herodiones*
Genus—*Egretta*

Family—*Ardeidæ*
Species—*Egretta candidissima*

The Snowy Heron

By WILLIAM DUTCHER

Chairman National Committee of Audubon Societies

Description—Snowy Heron (*Egretta candidissima*). There is no difference in the plumage of the sexes, both of which are always pure white. Occipital (top of head) and jugular (lower throat) region with plumes. From the interscapular region (between the shoulders) grow a large number of "aigrette" plumes which extend to or beyond the tail and, when in perfect condition, are recurved at tip; lores (front of eye), eyes and feet yellow. Bill black, except at base, which is yellow; legs black, except lower portion behind, which is yellow. The adults after the breeding season and the immature birds do not have the 'aigrette' plumes. Length from tip of bill to end of tail, not including plumes, varies from twenty to twenty-seven inches.

The Snowy Heron always breeds in colonies. Nest, a closely built platform of sticks, in rushes, bushes or trees in swamps. Eggs, three to five in number, of a light greenish blue color.

Distribution.—All of temperate and tropical America between 41° north latitude on the Atlantic coast; 45° north latitude on the Pacific coast, and 35° south latitude. After the breeding season, stragglers from the southern states sometimes wander as far north as Nova Scotia and Ontario.

The American Egret (*Herodias egretta*) is almost twice the size of the Snowy Heron, its length being from thirty-seven to forty-one inches; it is also pure white, and both sexes have during the breeding season only a large number of interscapular plumes which extend beyond the tail. These plumes are straight, and not recurved as are those of its smaller relative.

The White Herons of the other parts of the world are very similar to those found on the American continent, even to the difference in size. Corresponding to the Snowy Heron in America, *Garzetta garzetta* is found in southern Europe, across to China and Japan, south to the Burmese countries and the Indian Peninsula and Ceylon, Philippine Islands, Malay Peninsula, and the whole of Africa. A second small form, *Garzetta nigripes*, is found from Java throughout the Moluccas to Australia. The large forms, corresponding to the American Egret, are *Herodias alba* of southern Europe, east to central Asia, and south to Africa, the Indian Peninsula and the Burmese countries; and *Herodias timoriensis*, which is found from Japan and north China, south through the Malayan Archipelago to Australia.

The food of Herons consists of shrimp, small fish, aquatic insects, crayfish, and life found along the shores and in swamps. Economically, so far as known, they are neutral or harmless, but may prove to be highly beneficial when a scientific study of their food has been made.

The recent history of the White Herons is pathetic in the extreme, as it is a tale of persecution and rapid extermination. It was a sad day when fashion decreed that the nuptial plumes of these birds should be worn as millinery ornaments. Feathers and scalps, rapine and blood are the accompaniments of savage life, but better things are expected of civilization.

It is hardly possible that any women of the present day are unacquainted with all the horrible details of plume-hunting. The following pen picture of the horrors of the plume trade, drawn by Prof. T. Gilbert Pearson, Secretary of the North Carolina Audubon Society, shows the work in all its bloody reality:

"In the tall bushes, growing in a secluded pond in a swamp, a small colony of Herons had their nesting home. I accompanied a squirrel-hunter one day to the spot, and the scene which met our eyes was not a pleasant one. I had expected to see some of the beautiful Herons about their nests, or standing on the trees near by, but not a living one could be found, while here and there in the mud lay the lifeless forms of eight of the birds. They had been shot down and the skin bearing the plumes stripped from their backs. Flies were busily at work, and they swarmed up with hideous buzzings as we approached each spot where a victim lay. This was not the worst; in four of the nests young orphan birds could be seen who were clamoring piteously for food which their dead parents could never again bring to them. A little one was discovered lying with its head and neck hanging out of the nest, happily now past suffering. On higher ground the embers of a fire gave evidence of the plume-hunters' camp.

The next spring I visited this nesting site, but found only the old nests fast falling to decay.

When man comes, slaughters and exterminates, Nature does not restore "

This story of a single Florida colony is the story of what has happened in all of Florida, the Gulf coast of the United States, along the Mexican and Central American coast, both on the Atlantic and Pacific sides, and has extended into South America. From the enormous numbers of Herons' plumes that are annually sold in the London feather market there is no doubt that plume-hunters are at work wherever the white Herons are found.

That Herons are rapidly becoming scarce and more difficult to obtain by the plume-hunters is shown by the difference in price in the raw material. Twenty years since, the cost per ounce was only a few dollars, now it is more than quadrupled. In circulars sent by New York feather dealers to plume-hunters in Florida during 1903, thirty-two dollars per ounce was offered for fine plumes. This not only indicates the rapidly increasing scarcity of the white Herons but also that some dealers are willing, in order to obtain the plumes, to offer special inducements to hunters to violate laws enacted for the protection of these birds.

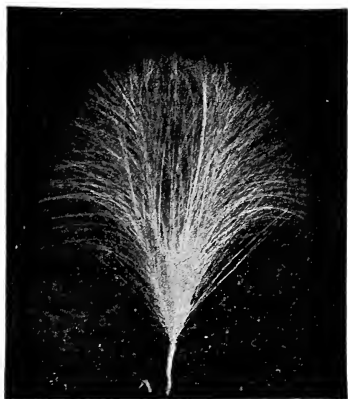
The much-sought-after plumes are worn by the Herons only for a very limited period during the year, that is, in the breeding season. Unfortunately, during that time the Herons gather in colonies; whether this is for protection or is merely social is not known. During the remainder of the year they are wild and wander over large districts, when it is impossible for plume-hunters to kill them in quantities that would afford pecuniary returns. However, during the breeding season the habits of these unfortunate birds change entirely,



SCALP' OR RAW
PLUMES AS
TAKEN FROM BACK
OF BIRD



PLUMES FROM EGRET; THE
'STUB' PLUME OF
COMMERCE



PLUMES FROM BACK OF SNOWY
HERON; THE 'AIGRETTE'
OR 'OSPREY' OF
COMMERCE

and with the growth of the parental instinct they lose all sense of fear or wildness and the hunter has little trouble in securing his victims. The death of the parent birds entails the destruction of the helpless nestlings by the painful and lingering method of starvation.

Mr. Chapman says, in his 'Birds of Eastern North America,' "The destruction of these birds is an unpleasant subject. It is a blot on Florida's history." The blood stain is not on Florida alone but may be found in every part of the world. A few years more of reckless slaughter during the breeding season and the white Herons will be classed among the extinct birds, the number of which is far too rapidly increasing.

Dealers often state that 'aigrettes' are manufactured, but this is not so; man has never yet been able to imitate successfully these beautiful plumes; all that are offered for sale have been torn from the backs of the smaller white Herons. Even the stiff plumes, or 'stubs,' are not manufactured but are the plumes of the larger species of white Herons.

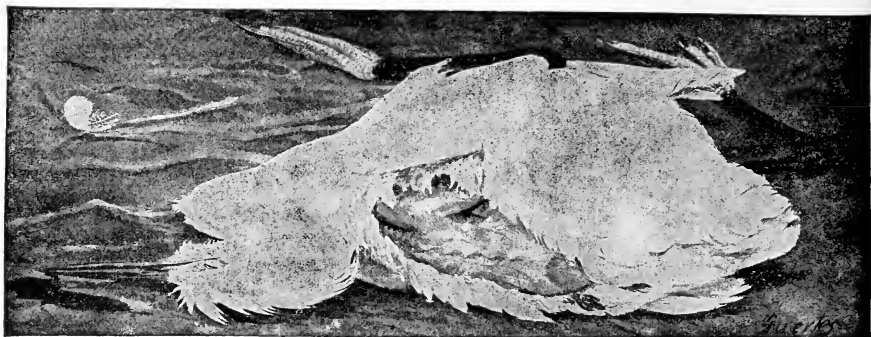
Herons' plumes are often sold as 'ospreys'; this is simply another trade name used to disguise the fact that they are Herons' plumes: the 'Osprey' of science is the Fish Hawk, which produces no plumes of any kind.

Both 'aigrettes' and 'stubs' are dyed various colors, especially black; however, no matter what is the tint of the plume, its original color when on the back of the Heron was white; the artificial color is merely in response to the dictates of fashion.

The Snowy Heron

It is conceded that the sale of aigrettes from American birds is prohibited, but it is claimed that there are no laws that prevent the sale of imported goods. Granting that this may be the case, how is the buyer to tell whether the goods are from American or Old World Herons? The most expert ornithologists cannot separate the plumes after they are taken from the birds.

The wearing of 'aigrettes,' or plumes from the white Herons, whether native or foreign, has now become a question of ethics which every woman must decide for herself. It matters not a whit where the plume comes from, the fact remains the same that the woman who wears one is party to a cruel wrong and the plume itself becomes a badge of inhumanity and is no longer a thing of beauty.



HERON FROM WHICH PLUMES HAVE BEEN TORN

"Mark how the Mother lulls to slumber
Her new-born Babe with tend'rous love
And guards her treasure from above!"

The word Mother is the most sacred of all names, and motherhood is the closest of all human ties. Oh, Mother! when you nestle your little one to your loving breast and look into the eyes that reflect the mother-love shining from your own, do you not sometimes think with an involuntary shudder of the sorrow and grief it would be were the child to be taken from you? Or, still worse, if your tender care were to be removed from the helpless infant? While this thought is still with you, extend it to the bird-mother, for she surely has for her offspring the same tender love that you have for yours; she has the same affection, the same willingness to face danger to protect what is to all mothers dearer than life itself. Oh, human mother! will you again wear for personal adornment a plume taken from the dead body of a bird-mother, the plume that is the emblem of her married life as the golden circlet is of your own, the plume that was taken from her bleeding body because her motherhood was so strong that she was willing to give up life itself rather than abandon her helpless infants! Whenever you are tempted in the future to wear a Heron's plume, think for a moment of your own motherhood, and spare the bird-mother and her little ones.

Study Points for Teachers and Students

Trace distribution of each species of white Heron on the map of the world. When are the plumes worn by the Herons? Which species of Heron have recurved plumes? Which have straight plumes? How are Herons' plumes procured for the millinery trade? Do the habits of Herons change at any period in the year? In what way?

For life history of the American White Herons, read "Audubon's American Ornithological Biography"; for cause of probable extermination of white Herons in America read "The Present Condition of Some of the Bird Rookeries of the Gulf Coast of Florida," by W. E. D. Scott, Auk, Vol. IV, pp. 135-144, 213-222, 273-284; also "Stories of Bird Life," by T. Gilbert Pearson.

THE CARDINAL*

By WILLIAM DUTCHER

President of National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 18

The Cardinal is one of the most brilliant of American birds: the name is derived from its color, which is a deep red, somewhat less vivid than scarlet. This color is supposed to be named from the vestments of a cardinal, an ecclesiastic of high rank in the Roman Church. The female bird, while not so conspicuous as her mate, is clad in a rich brown, with just enough of red to light it up. They are indeed a striking pair, and wherever they are found soon become favorites. They are known as Cardinal Grosbeaks, Red-birds, Crested Red-birds, Virginia Nightingales, and lately James Lane Allen has made familiar Kentucky Cardinal. The illustration shows the Cardinal's most prominent features,—a very large strong bill, a conspicuous crest, which can be erected or depressed at will, short rounded wings, and a long tail. The length of the Cardinal is a little over eight inches from tip of bill to end of tail.

Once seen, the Cardinal can never be mistaken for any other bird, especially as its plumage virtually never changes but remains much the same at all seasons of the year. Cardinals are resident wherever they are found, and their center of abundance is in the southern portion of the United States. The northern limit of its range is approximately a line drawn from a point in the vicinity of New York City, westward to southeastern Nebraska, thence southward to Texas, where it is found in the greater part of the state. These lines are arbitrary, but are given in order that a teacher may show scholars in a general way where Cardinals can be found. Further, they give teachers and pupils who reside outside these limits an opportunity to extend the Cardinal's known range by proving that it lives in their locality.

There have been records of the Cardinal made as far north as Nova Scotia and southern Ontario, but it is believed that these were escaped cage-birds,† the Cardinal, probably owing to its beauty of plumage and richness of song, having long been a favorite cage-bird. Alexander Wilson, in 'American Ornithology' (Vol. II, page 145), which was published in 1828, says: "This is one of our most common cage-birds, and is very generally known, not only in North America, but even in Europe; numbers of

*THE CARDINAL

Order—*Passeres*
Genus—*Cardinalis*

Family—*Fringillidæ*
Species—*Cardinalis*

†Read the charming story "The Cardinal at the Hub" in BIRD-LORE, Vol. I, page 83, by Ella Gilbert Ives.

them having been carried over both to France and England, in which last country they are usually called Virginia Nightingales."

Dr. Russ, the great German aviculturist, says, "Beloved in its home by both Americans and Germans, it is protected and caught only for the cage-bird fancy. Had been bred in Holland a century and a half ago and later in England." It is true that until recently large numbers of Cardinals were caught or taken from the nest while young, for shipment to foreign countries by bird dealers. Owing to the efforts of the National Association, this traffic is a thing of the past. The Model Law, which is in force in all the states where the Cardinal is found, prohibits all traffic in these birds and forbids their being shipped from the state.

The Cardinal is too beautiful and valuable a bird to be confined within the narrow limits of a cage, where its splendid spirit is soon broken by its unavailing attempts to escape. Mrs. Olive Thorne Miller, in one of her charming pictures of bird life, says of a captive Cardinal, that, "He is a cynic, morose and crusty." Such a character cannot be attributed to the Cardinal when it is at liberty. Its wild free song, its restless activity and its boldness are the antithesis of a depressed cage captive. Even when it receives the best care from its human jailor it is still a prisoner confined in a space so small that it never has an opportunity to stretch its wings in flight, nor can it ever bathe in the bright sunshine or view the blue skies above it. The whispering of the winds through the sylvan shades is lost to the captive forever. Is it strange that the nature of this wild free spirit changes?

The writer has seen many hundreds of these beautiful birds in cages ready to be shipped, each one doomed to a short existence, a prisoner and an exile. Fortunately, this condition is now changed; and, had the National Association accomplished no other good, the stopping of the cage-bird traffic would be a sufficient reason for its organization.

In the South, where the Cardinal is one of the most abundant birds, it is a special favorite, rivaling the Mocking-bird in the affections of the people. It is commonly found in the towns as well as the rural districts. The female bird builds the nest, which is loosely constructed of leaves, bark, twigs, shreds of grape-vine, and is lined with dry grasses. The nest is placed in bushes or vines from eight to ten feet from the ground. Three or four white eggs, speckled with brown, are laid, and it is probable that in the South two broods of young are raised each season. The home life of Cardinals is a pattern of domestic felicity, so true are the sexes to each other. Even in winter they seem to be paired, for a male and a female are always seen together. However, during the season of incubation the tender solicitude of the male for his mate is best shown. In fact, his extreme anxiety that the home and its inmates should not be discovered excites him so much that he actually leads the visitor to the nest in the attempt to mislead.

The song of the male Cardinal is loud and clear, with a melodious ring,

"What cheer! What cheer! What cheer!" winding up with a peculiar long-drawn-out *e-e-e*. Contrary to the usual custom in bird families, the female Cardinal is an excellent singer, although her notes are in an entirely different key from those of her gifted mate, being lower and to some ears more sweet and musical.

Audubon's 'American Ornithological Biography' is so rare at the present day, being found only in the largest libraries, and is consequently so inacces-



NEST AND EGGS OF CARDINAL

Photographed in Central Park, New York City, by B. S. Bowdish

sible to the ordinary reader, that his description of the song of the Cardinal is quoted in full.

"Its song is at first loud and clear, resembling the finest sounds produced by the flageolet, and gradually descends into more marked and continued cadences, until it dies away in the air around. During the love-season the song is emitted with increased emphasis by this proud musician, who, as if aware of his powers, swells his throat, spreads his rosy tail, droops his wings, and leans alternately to the right and left, as if on the eve of expiring with delight at the delicious sounds of his own voice. Again and again are those melodies repeated, the bird resting only at intervals to breathe. They may be heard from long before the sun gilds the eastern horizon, to the period when the blazing orb pours down its noonday floods of heat and light, driving the birds to the coverts to seek repose for a while. Nature again invigorated, the musician recommences his song, when, as if he had never strained his throat before, he makes the whole neighborhood resound, nor

ceases until the shades of evening close around him. Day after day the song of the Red-bird beguiles the weariness of his mate as she assiduously warms her eggs; and at times she also assists with the modesty of her gentler sex. Few individuals of our own race refuse their homage and admiration to the sweet songster. How pleasing is it, when, by a clouded sky, the woods are rendered so dark that, were it not for an occasional glimpse of clearer light falling between the trees, you might imagine night at hand, while you are yet far distant from your home, how pleasing to have your ear suddenly saluted by the well-known notes of this favorite bird, assuring you of peace around, and of the full hour that still remains for you to pursue your walk in security! How often have I enjoyed this pleasure, and how often, in due humbleness of hope, do I trust that I may enjoy it again!"

In addition to its great esthetic value of song and plumage, the Cardinal has another important character which should endear it to the husbandman. Its food is varied, consisting of wild fruits, such as grapes, berries, mulberries, cedar berries, seeds of grasses and of many species of weeds, also large numbers of adult beetles, grasshoppers, crickets, flies, ants, and their larvæ: it is especially fond of rose-bugs. The Cardinal is from every point of view a bird of great interest and value, and any person who makes its intimate acquaintance will form a life-long friendship.

Questions for Teachers and Students

What is the local name of the Cardinal in your vicinity? Describe the plumage of the male and the female bird, or reproduce them on the outline sketch. Describe the plumage of the nestling. How long is a bird called a nestling? Does the Cardinal sing during the entire year? If not, during what months is it silent? Describe the alarm note. If possible, imitate the song. Give size of Cardinal, shape of body, wings, tail and feet. Compare it with some well-known bird, like the Robin. Are Cardinals ever seen in flocks? What is the largest number you have ever seen together? Have Cardinals any peculiarities of flight? Do they breed in your locality? Describe the nest in detail. What food have you observed Cardinals eating, either vegetable or animal? Describe the food in detail.

NOTE.—Follow suggestions given in questions in the Goldfinch leaflet, and always bear in mind that the observation notes and papers presented by the student are of far greater value if they are the result of studies made of the live bird in the garden, field or forest.

When you think you have learned something new about the song, or habits, or food of the Cardinal, send a short note of it to BIRD-LORE, for the benefit of other students.

NOTICE—This leaflet, with outline figures for coloring, can be obtained of the National Association, 141 Broadway, New York. Price: 1 dozen, 15 cents; 100, \$1; 1,000, \$9.

THE AMERICAN GOLDFINCH*

By WILLIAM DUTCHER

President National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 17

The Goldfinch, which is also known as the Yellow Bird, Wild Canary, Lettuce Bird and Thistle Bird, has been selected as the first of the series of birds to be shown in natural colors. Presentation in this way renders unnecessary a detailed description of its plumage. The English name of the Goldfinch is well chosen, as the bright yellow of the male when in breeding plumage is like burnished gold. The Latin generic name of the Goldfinch has reference to prickly plants, while its specific name, *tristis*, sad, refers to its rather plaintive flight note. The female Goldfinch is more modestly dressed than her mate.

The changes in plumage of the male are very interesting and, to the novice, somewhat puzzling. Until the student becomes acquainted with this bird he may wonder why he sees no males during the winter. The truth is at this season the flocks of supposed female Goldfinches are really of both sexes, the male bird having assumed in the previous fall, usually by the end of October, a plumage closely resembling that of the female and young bird of the year.

The male retains this inconspicuous dress until late in February, when one can notice a gradual change taking place in some of the birds. This molt, or renewal of feathers is actively continued through March and April, and by the first of May our resplendent bird is with us again. The change from yellow to brownish and back again to yellow can be noted by the student in the field, who with a good opera-glass will find that the variations in plumage between the two extremes are without number.

The song period with the male Goldfinch continues as long as he wears his gold and black livery, for it commences as early as the middle of March and ends late in August.

Goldfinches are wee birds, some four and one half-inches in length, but what they lack in size they make up in admirable qualities, one of the chief of which is their gregarious mode of life. Except during the short season devoted to domestic duties, they associate in flocks and live a happy, nomadic existence. Their undulating mode of flight seems to express joy and

*THE AMERICAN GOLDFINCH

Order—*Passeres*
Genus—*Astragalinus*

Family—*Fringillidæ*
Species—*Tristis*

exaltation, and when they add song, it is the very abandon of happiness. Even in winter, when the fields are brown and the trees are bare, a flock of Goldfinches adds the charm of life to an otherwise dead outlook.

The Goldfinch migrates, but not to the extent that the truly migratory species do. The Warblers, for instance, desert their summer homes and, after making long journeys southward, spend the winter beyond the limits of the United States; the Goldfinches, on the contrary, gradually move southward



NEST AND EGGS OF AMERICAN GOLDFINCH

Photographed from nature by C. William Beebe

as far as the Gulf States and in winter are found from the Gulf coast as far north as the latitude of central New York. Their breeding range is from the Carolinas westward to the Rocky Mountains and northward to the British Provinces and southern Labrador; consequently they are permanent residents in a large part of the United States where their migratory and breeding ranges overlap. There are several closely related forms or subspecies of the Goldfinch* found in the West and on the Mexican border

* Pale Goldfinch in Rocky Mountain district; Willow Goldfinch in Pacific coast district.

which are so much like the American Goldfinch that it may be said Goldfinches are found in a large part of North America.

Goldfinches are very cleanly in their habits and indulge in frequent baths; indeed, the border of a shallow pool is an excellent place to study this species, as it is not an uncommon sight to see a number of the brightly colored males gathered there. During the breeding season the parent birds seem to have a well-defined route from the nest to a common watering place.

The nesting site may be in an evergreen or deciduous bush or tree, and the nest may be built only a few feet from the ground or at considerable height, where it is saddled on or attached to a forked twig. The nest itself is an exquisite piece of bird architecture, compactly built of dried grasses, leaves and shreds of bark, the outside being embellished with lichens, which Audubon says are attached by saliva. The inside of the nest is lined with the softest plant-down. The mother-bird is the builder of this tasteful home, her handsome consort, during the nest-building time, devoting most of his efforts to singing to cheer his industrious mate. After the four to six bluish white eggs have been laid the singing partner has more work to do, for he has to feed his brooding wife. His frequent visits are always announced with a sweet conversational song, which he seems able to give even though his bill is filled with seeds.

These leaflets are published to induce the boys and girls of the country to keep their eyes wide open and see things out of doors. One of the things we want to know about the Goldfinch is why he begins to nest so late in the season, often long after most birds are through with domestic duties for the year. August is the time he chooses. Surely it seems a strange month for nest-building and the care of young. Does he select it because before that date nature has not provided food suited to the needs of the young Goldfinches?

The Goldfinch belongs to the thick-billed, seed-eating class of birds and is extremely fond of the seeds of thistles, a most noxious weed. Does he postpone housekeeping until the thistle seeds are ripe enough to eat?

The agriculturist should be interested in this bird. Every thistle along the highway is a prolific source of future trouble, but when you see it ornamented with an animated bit of gold and black, you may know that Nature is interposing one of her potent checks to the too rapid increase of weed pests. Every Goldfinch saves the farmer much hard work by destroying weed seeds, which form the bulk of its food supply, although during the breeding season it gives its young considerable animal food, consisting of insects of various kinds.

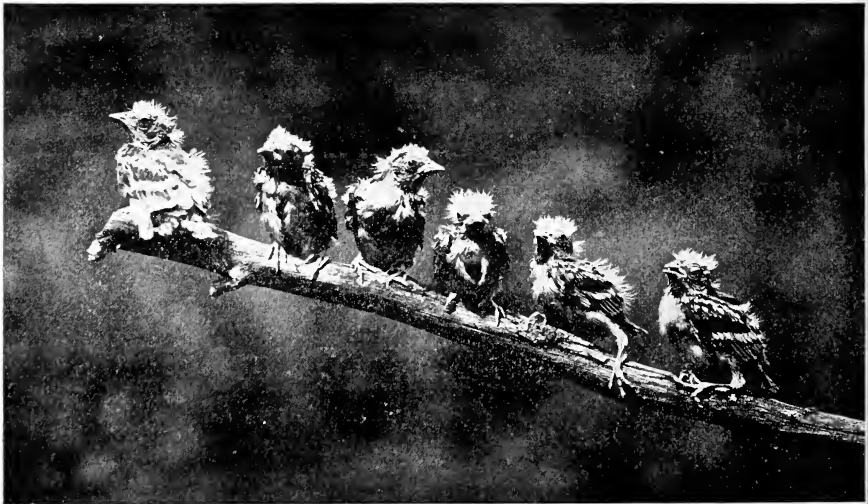
Questions for Teachers and Students

What is the local name of the Goldfinch in your locality? Describe the plumage worn by the male bird in summer, also at other seasons; how do the plumages of the male and

The American Goldfinch

female bird differ? When does the male bird begin to assume the summer or breeding dress? when the winter dress? How long does it take to make the change? Is there any change in the plumage of the female bird? What is a molt? Do any birds change the color of their plumage without molting? What is such process called? Describe the plumage of young birds at the time they leave the nest. Descriptions should be based on observations made in the field from the living bird, when possible. When does the song period commence? How long does it continue? Does the female have a song? What is the alarm note? The flight note? Give size of Goldfinch, shape of body, wings, tail, bill, feet. What are the habits during different seasons of the year? What is meant by gregarious? By nomadic? Are there any peculiarities of flight? During what portion of the year are Goldfinches found in your locality? Do they breed in your locality? Describe the nest in detail, materials used, size, etc.

(NOTE.—If an occupied nest of the Goldfinch is found, the locality should be described in detail in a note-book, the kind of tree, height of nest from ground, etc. After the nest is abandoned it should be secured, properly labeled, and kept in the class-room for examination and comparison.) When do the Goldfinches nest in your locality? What do Goldfinches eat? (NOTE.—This question will be answered best from personal observation.) Name and describe the plants from which seeds are taken. Name and describe the insects eaten. Is the bird doing good or harm? To whom, and how?



GOLDFINCHES IN THE MAKING

The Belted Kingfisher

By WILLIAM DUTCHER

President of National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 19

The Kingfishers are a large, interesting and curious family of birds, quite as much so as their relatives, the Cuckoos. They are distributed over the greater part of the globe, and some of the species will repay special study on account of their peculiarities or beauty of plumage.

Australia possesses a very large species which has such a loud and discordant note that it is commonly known as the 'Laughing Jackass.' It is sometimes brought to this country for exhibition in zoölogical parks or traveling shows. The common Kingfisher of Europe, with its blue-green upper parts and its rich chestnut breast, is an example of striking and attractive plumage. Among the many legends connected with the Kingfisher, one tells us that originally all the members of this family were clothed in dull-colored plumage, but the Kingfisher that was liberated from Noah's ark flew toward the setting sun, and on its back was reflected the sky, while its breast was scorched by the rays of the heat-giving orb. Another fable states that Alcyone, daughter of Æolus, grieved so deeply for her husband, who was shipwrecked, that she threw herself into the sea, and was immediately changed into a Kingfisher.

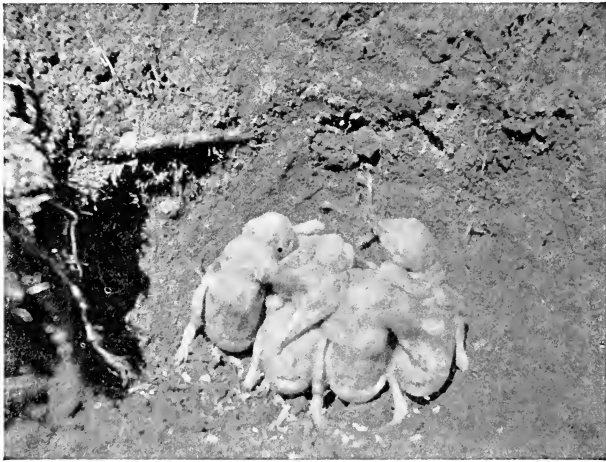
Pliny says, "Halcyons lay and sit about Midwinter when daies be shortest; and the time whiles they are broodie is called the *halcyon daies*: for during that season the sea is calm and navigable." Even now the word halcyon represents calm and peaceful days devoted to pleasant outings in the woods or fields, along the ocean beaches, or paddling up some quiet river, all the while learning to know the trees, or wild flowers, and the songs and forms of the birds that are everywhere seen about us.

Such are the restful days when the school and work are thrown aside and the tired brain and body drink in great draughts of life and vigor. It is then that we see our own Belted Kingfisher, a bird about twelve inches long, perched on some twig overhanging the water. It sits as motionless as though carved from stone until its watchful eye sees a fish in the water below it, when it dives for its prey, disappearing entirely beneath the surface. It rarely ever misses its aim, and on reappearing a wriggling fish is seen held in the bird's powerful mandibles. The feathered fisherman flies directly back to his favorite perch, from which the plunge was made, and, after beating its captive on the limb until it is dead, swallows it head

The Belted Kingfisher

first. Sometimes before the bird reaches the surface of the water the fish has disappeared or is out of reach, when the Kingfisher changes its course and with an upward sweep resumes its former position. Again, during a flight over the stream the keen eye of the Kingfisher discovers a fish, when it will stop suddenly in its course and hover with extended wings over the spot for a few seconds, when it will dive with the same ease and accuracy as it did from the limb.

Kingfishers are not sociable with their own kind, nor with the human race. A pair will preëempt a locality, and no other Kingfishers are permitted to occupy the same territory. If we seek to approach this king of fishermen he permits us to get within a certain distance, usually a long gun-shot off, when his distaste for human companionship becomes so great that,



KINGFISHERS TWO DAYS OLD
Photographed by H. L. Bailly

with a loud, rattling cry, he leaves his post of observation and flies a few hundred yards up stream and alights. Again we try to approach, but the bird is even more suspicious than before, and soon takes another flight over the stream. This is repeated until the Kingfisher thinks he is getting too far away from his home, when, sweeping wide, he will circle past us and with loud, rattling cries, seemingly in derision at our futile attempts to catch him, will return to his favorite outlook to resume his finny quest.

The Belted Kingfisher is found throughout North America, but is nowhere very common, owing to its solitary and unsociable disposition. During the breeding season its range extends from the Gulf of Mexico to the Arctic Sea and from the Atlantic to the Pacific Ocean. When the ice closes the waters of the north the Kingfishers move southward, and their winter range is from the West Indies and northern South America to the Canadian border of the United States. Open water and a food supply are the factors that determine their winter quarters.

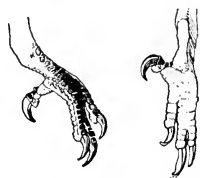
One of the singular habits of this peculiar bird is connected with its breeding. It does not build a nest in a tree or on the ground, but it excavates a hole in the side of a bank, usually near water, but not always, as railroad cuts are sometimes selected. The location of the burrow is probably determined largely by the character of the soil, the favorite kind being clay, compact sand, or mixed gravel and loam. Both the male and female bird join in the labor of excavation, which is done with their large and powerful bills, the feet being used to push out the loosened soil.

The passage is round and about four inches in diameter and extends inward, straight or with bends to a varying depth from four to twenty feet, and terminates in a round domed living-room. Here the clutch of five to eight pure white eggs are laid and the young are hatched. As the nestlings are protected from cold, heat and storms, there is little or no nesting material used, although in old excavations a considerable amount of fishbones and scales may be found. If the birds are not disturbed, a burrow will be used for a number of successive seasons.

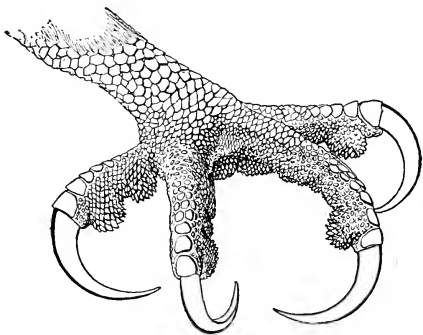
The young, when hatched, are naked, very helpless and their eyes are not opened. They grow very slowly. Kingfishers belong to the class of birds known as *Altrices*, or those whose young are helpless at birth and require feeding and care in the nest. They are in striking contrast to the *Præcoces*, whose young are able to run about and feed themselves as soon as they are hatched. One of the most interesting subjects in the study of birds is the difference in habits between the altricial and precocial birds; it will be a never-ending source of interest to the teacher and the pupils. Contrast, for instance, the helpless young of the Kingfisher with the downy, self-reliant young of the Spotted Sandpiper, that well-known bird that is seen in summer teetering on the margin of almost every river or pond in this country.*

Another interesting subject is the investigation of the food of birds and their means of procuring it; in other words, how the bills and feet are adapted to the needs of the bird when procuring food.

Kingfishers subsist principally on small fish not over three inches in length which are of little or no value. They also eat crustacea, grasshoppers, beetles, crickets, frogs, lizards, etc. Major Bendire says, in 'Life Histories of North American Birds': "In southern Arizona, where streams are few, I have found Kingfishers breeding in localities where fish must



FEET OF KINGFISHER



FOOT OF OSPREY

* Read 'The Kingfishers' Home-Life,' by William L. Bailey, BIRD-LORE, Vol. II, p. 76, 1900.

The Belted Kingfisher

have formed a very small percentage of their daily fare; I have more than once seen one of these birds perched on some twig overhanging a dry, sandy river-bed, where no water was to be found within several miles.''

The only implement the Kingfisher needs in procuring its food, is its large and powerful bill. With this it seizes its prey, whether it is a slippery fish beneath the surface of the water or an insect on the land. Its feet are so small and weak that they are no help for grasping or holding, when securing food.

Contrast the implements of the Kingfisher with those of that other great fisher, the Osprey. Were it to plunge head first into the water for its prey, as the Kingfisher does, it would never secure food, for its hooked bill is not adapted for catching a fish. The Osprey, however, has a special implement, in large and powerful feet. When



BILL OF OSPREY

the bird plunges for a fish, its strong feet, with their long, sharp claws, are thrown downward and the fish is securely grasped. It is then carried to a perch, where it can be torn in pieces for eating or to be fed to the young.

In every line of study connected with birds, something of interest may be found. The leaflets published by this association are merely hints to the teachers, which may be elaborated by the pupil or bird club.



BILL OF KINGFISHER

Questions for Teachers and Students

Has the Kingfisher a local name in your locality? Has it any song? Describe or imitate its call-note. Describe the shape of the Kingfisher, comparing it with some bird of the same size. What is the meaning of syndactyl? How does it apply to the Kingfisher?

Note the largest number of Kingfishers seen at one time. Describe nest, where placed, character of soil, how far from water; if one is found, record whether it is used the succeeding year. Describe the food used. Does the Kingfisher ever eat vegetable food? Name several species of fish eaten by the Kingfisher; describe them; are they found in ponds or running streams? Name a number of altricial birds that live in your locality; also some precocial birds; in what respect do they differ?

NOTE.—In order to economize space, the series of questions is not so full as it might be made. The teacher and pupil are expected to examine the questions in previous leaflets for suggestions.

NOTICE.—This leaflet, with outline figures for coloring, can be obtained of the National Association, 141 Broadway, New York. Price, per dozen, 15 cents; 100, \$1; 1,000, \$9. Leaflets are ready for distribution the 20th of the month of publication.

The Scarlet Tanager

By WILLIAM DUTCHER

President of the National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 21

It is the wish of the writer to repeat here what has been said in previous leaflets, that the fundamental object of this series of publications is to induce the student, as well as the agriculturist, to get in close touch with Nature itself, not through books, or the classroom, but out in the open. Nor must this association be restricted to one subject, birds; it must be broad and general, embracing all of Nature, in order to be of the greatest educational value. The fabric woven by Nature is of such exquisite pattern that each thread must be examined in order to enable one to appreciate the composite whole. The bird student is naturally led to consider many phases of nature, insects, plants and especially trees. Is there any more beautiful feature of out-of-door life than a forest? The trees of the forest are a lesson of patient endeavor, and their hoary trunks indicate the slow process by which Nature builds; each ring in the bole is a record of the ages taken to fashion this exquisite piece of Nature's handiwork. As one looks down the long aisles and vistas of trees he is reminded of the stately columns in a great cathedral. Is it any wonder that the Druids held their religious ceremonies in Nature's temples and that they deified the oak as the emblem of strength, while the clinging mistletoe typified the dependence of man? If one looks down, it is to find a carpet of many-hued wild flowers and mosses which hides the processes of change that are going on; the leaf of last year is turning into the mold that helps build the forest and serves as Nature's reservoir to store surplus rain, thus preventing devastating floods. Through the openings in the foliage the sunlight streams down and forms upon the ground mosaics of light and shadow, more beautiful in color and design than any ever fashioned by the hand of man. Longfellow says, "Nature, with folded hands, seems kneeling there in prayer." It is while in this hallowed place we hear a voice in the tree-tops and, looking upward, see a Tanager in his beautiful dress of scarlet and black, a true wood bird, a fitting occupant of such a home.

The Tanager is a member of a large family of distinctly American birds. Dr. Sclater, the eminent British ornithologist, gives no less than 375 species, which are arranged in 59 genera.* Mr. Ridgway,† in his latest and most

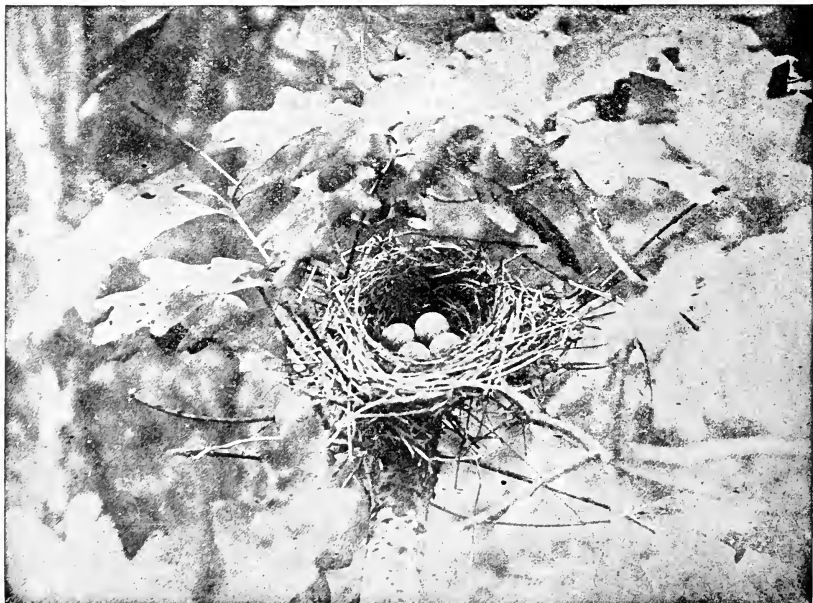
* Catalogue British Museum, Vol. XI.

† Bulletin of the United State. National Museum No. 50, Part II. 1902.

The Scarlet Tanager

exhaustive work on American birds, states that 21 genera and 112 species are found in North and Middle America. Of these the Scarlet Tanager is the most conspicuous member of the family that is found in North America. It arrives at its summer home early in May and starts on its southward journey in the fall, late in September or early in October. As the Tanagers migrate by night, many of them become the victims of lighthouses and thus give accurate records of migration dates, especially in the southward migration. It is of singular interest that the mortality occasioned by the light-stations is many times as great in the autumn as it is in the spring. What the reason for this difference is has not yet been discovered, although it may in some measure be accounted for from the fact that in the fall of the year there is more thick and misty weather than in the spring. From records made by the writer, female Tanagers were migrating northward past Fire-Island Lighthouse as late as May 15, and the same sex were migrating southward as early as September 23, while a young bird of the year had started south as early as September 18. The latest date in the fall furnished by a lighthouse victim was a male bird killed October 11. The Tanager's breeding home is anywhere in eastern United States, as far south and west as Missouri, and in the southern British provinces from Nova Scotia to Manitoba. In the winter it retires to some parts of the West Indies, and to South America as far as Peru.

Audubon says that the Tanager "is very sensible to cold, so much so,



NEST AND EGGS, SCARLET TANAGER

Photographed by B. S. Bowditch

indeed, that in the state of Massachusetts should a sudden change take place in the weather, during the time of their spring migrations, hundreds die in the course of a night, not only in the woods and orchards, but even in the towns and villages. I witnessed a like occurrence at Eastport in Maine late in May, when I was on my way to Labrador."

While at its summer home the Scarlet Tanager loves the deep woods, although it is often seen in orchards and clearings. The nest is a very frail affair and it is usually saddled on a limb, quite near its extremity, from ten to forty feet from the ground; it is composed of fine twigs and dried grasses, with a lining of rootlets. The clutch of eggs varies from three to five; they are greenish in color, much spotted with browns and purples.

Alexander Wilson, one of the early American ornithologists, and certainly one of the greatest, in speaking of the song of the Scarlet Tanager, says:* "Among the thick foliage of the tallest trees, his simple and almost monotonous notes *chip, churr*, repeated at short intervals, in a pensive tone, may be occasionally heard; which appear to proceed from a considerable distance, though the bird be immediately above you,—a faculty bestowed on him by the beneficent author of Nature, no doubt for his protection, to compensate in a degree for the danger to which his glowing color would often expose him. If he has little of melody in his notes to charm us, he has nothing in them to disgust." Wilson evidently failed to credit the Tanager with its best vocal efforts, which all of the later observers and writers have done. In fact, the Tanager is one of our best singers, being almost the equal of the Rose-breasted Grosbeak. The songs of the two birds are often mistaken, although it is claimed that the song of the Tanager has not the roundness and fullness of that of the Grosbeak, being somewhat harsh in its finish. In addition to the fascinating esthetic qualities of color and song of the Scarlet Tanager, it is of very great economic importance, as its food consists largely of noxious insects, especially those found among the tree-tops; it also eats largely of wild fruits, with occasionally a few cultivated ones.

Wilson says, "His manners are modest, easy and inoffensive. He commits no depredations on the property of the husbandman, but rather benefits him by the daily destruction in spring of many noxious insects; and when winter approaches he is no plundering dependent, but seeks in a distant country for that sustenance which the severity of the season denies to his industry in this." Among the most interesting and important branches of bird study is that of plumage and moult; in fact, without some knowledge of this subject the student makes little progress in his acquaintance with the birds commonly found about him. The Scarlet Tanager and his soberly colored consort are striking examples of differences of and also change in plumage. The illustration herewith, to some extent, explains itself. The female bird practically always wears the same dress so far as its color is concerned,

* American Ornithology; or the Natural History of the Birds of the United States.

The Scarlet Tanager

although the material is renewed at intervals by moult. On the other hand, the richly dressed male is subject to many changes. Commencing with the nest it has a *natal down*, which is followed by a *juvenal plumage*; this is succeeded by the *first winter plumage*. These latter plumages are very much in color like that of the female bird. This carries the male bird until the following spring, when by moult an entire change in appearance takes place and the Tanager assumes the *first nuptial plumage* of scarlet vermillion, which is worn until the *post nuptial* moult takes place after the breeding season and just prior to the southward migration. It is known as the *adult winter plumage*. The male at this moult assumes a plumage very much like that of the female bird, but he can always be readily distinguished by his jet-black wings, the wings of the female bird being a brownish black. The bird student, especially the beginner, often wonders why it is that he fails to find any male Scarlet Tanagers in the late summer, and it is only after the subject of moult and change in plumage is understood that such enigmas are unraveled. During the *post nuptial* moult of the male the plumage assumes a parti-colored appearance that is very singular. One of the most important and valuable contributions to the literature of ornithology was made a few years since, by Dr. Jonathan Dwight, Jr., in which he discussed the plumage and moults of the passerine birds of New York.*

The subject is treated so comprehensively and intelligently by the author that every nature teacher should procure a copy of this valuable treatise. It is practically impossible, in a leaflet of this size, to do more for the student than to refer him to a recognized authority on this interesting subject. A short quotation from the opening chapter of the book will show its value and scope: "The moulting of birds is a subject so complicated, so extensive, and so difficult of study, that it is not surprising to find it wrapped, even today, in dense clouds of ignorance which obscure the true principles underlying it. It is my present purpose to demonstrate the principles dominating the plumages and moults of no less than one hundred and fifty North American species of the great order *Passeres*, or Perching birds, and at the same time indicate the wider application of these principles, which the study of other groups leads me to believe prevail among all species of birds, modified only by circumstances."

Questions for Teachers and Students

Use as many as possible of the questions in E. L. No. 20; nearly all of them may be adapted. What is the bole of a tree? Describe how the age of a tree can be determined. Who were the Druids? When and where did they live? Describe how forests store moisture? What species of Tanager is found in your locality? Describe change of plumage of male Tanager. Have you ever seen one during process of change; give season? What are the primaries? What are the rectrices?

* The Sequence of Plumages and Moults of the Passerine Birds of New York, by Jonathan Dwight, Jr., *Annals N. Y. Acad. Sci.*, Vol. XIII, No. 1, pp. 73 to 360, Oct. 19, 1900 (Plates I to VII).

THE KILLDEER

By WILLIAM DUTCHER

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 23

This Plover, which derives its name from its oft-repeated note of *kildee, kildee, dee, dee, dee*, should be a familiar bird to all people who wisely seek their health and pleasure out-of-doors with wide-open eyes. It is found over the whole of temperate North America, and it breeds throughout its entire range. In the winter months it is found from the parallel of the Gulf States to northern South America and in the West Indies, although the writer has found them on Long Island, New York, in every month of the year but January.

It is impossible to overlook the Killdeer by reason of its beauty of coloring, its trim appearance, its stately walk when undisturbed, its rapid and graceful flight when startled. Every bird has its characteristic motion while in the air, and the student who is a close observer soon learns to know many birds from their appearance while in flight when their color is indistinguishable and their notes but faintly heard.

The writer has many bird pictures impressed upon his mind that never can be effaced while time lasts for him, and standing out among them in refreshing relief is a memory of a smooth-flowing river gently winding its way from the hills through grassy meadows toward the sea, in which it would soon be lost. It was in early autumn, when Nature exhibits her choicest colors and the birds are flocking for their leisurely journey to the distant southland, that a company of Killdeers were running about in one of the brown fields for a fare of succulent grasshoppers or crickets, all the while chatting with each other in colloquial tones.

A human intruder appeared, and the startled birds arose from the ground in flight but were reluctant to leave such rich foraging grounds. They massed in solid ranks and whirled through the air, now high in graceful evolutions, then downward with lightning rapidity, sweeping across the field; breaking ranks and flying like leaves before a gale, only to mass again for some new and intricate movement, which, if possible, was more perfect than the first.

Let us change the picture to the vernal season, and observe the Killdeer after it has returned to its breeding home, a field which man may use for growing his sugar, cotton, rice and corn or any of the other products so necessary for his happiness, and even for his very existence. Then we see the birds happily mated and employed in selecting a suitable depression in

the ground in which to place their four pyriform eggs of a delicate creamy white tint thickly spotted or lined with chocolate-brown. Like the eggs of all Plovers, their size is out of all proportion to the size of the bird.

The Killdeer does not waste any time in building a nest, and only in rare instances does it take the trouble to line the cavity in which it deposits its eggs. Alexander Wilson, however, records an interesting nest which he found "paved with fragments of clam and oyster shells, and very neatly surrounded with a mound or border of the same, placed in a very close and curious manner."

The young Killdeers have little use for a nest, after they are born, for the large size of the eggs (1.50 X 1.10 inches) permits the development of large, strong legs and feet, so the young are really never nestlings in the ordinary sense of the word, for they are prepared from birth to follow their parents abroad, not by flight but by running. They differ in this respect from the altricial birds, which do not leave their home until their wings are strong enough to support them in flight. The solicitude of the parents for their young is very marked. Wilson says: "Nothing can exceed the alarm and anxiety of these birds during the breeding season. Their cries as they winnow the air overhead, dive and course about you, or run along the ground counterfeiting lameness, are shrill and incessant. The moment they see a person approach, they fly or run to attack him with their harassing clamour, continuing it over so wide an extent of ground that they puzzle the pursuer as to the particular spot where the nest or young are concealed."

Audubon's description of the Killdeer's habits at this time are so quaint that they are quoted also: "At this period, or during incubation, the parents, who sit alternately on the eggs, never leaving them to the heat of the sun, are extremely clamorous at sight of an enemy. The female droops her wings, emits her plaintive notes, and endeavors by every means she can devise to draw you from the nest or young. The male dashes over you in the air, in the manner of the European Lapwing, and vociferates all the remonstrances of an angry parent whose family is endangered. If you cannot find pity for the poor birds at such a time, you may take up their eggs and see their distress; but if you be at all so tender-hearted as I would wish you to be, it will be quite unnecessary for me to recommend mercy." This is good advice, that I hope will be followed by every boy and girl who reads this leaflet,—in fact by every person.

If you should discover a nest of the Killdeer, carefully note the exact spot where it is located. If it contains only three eggs, it will indicate that the clutch is not yet complete and a very brief visit, after an interval of a day or two, should be made. If four eggs are then found, it will show that incubation has commenced. Visits at infrequent intervals should then be made to ascertain the time that elapses before the young birds are hatched.

By simply walking past the eggs, without stopping, the desired information can be secured. After the young birds are hatched it will be extremely difficult to find them, by reason of their habit of squatting and remaining perfectly still, and also because they simulate their surroundings so perfectly. The student, by such field studies, can secure a great many interesting and valuable notes, and, if care is taken, without in the least harming either the old or young birds.

The extreme watchfulness of the Killdeer at other seasons is portrayed by Audubon in one of his delightful descriptions of his own wanderings: "Reader, suppose yourself wandering over some extensive prairie, far beyond the western shores of the Mississippi. While your wearied limbs and drooping spirits remind you of the necessity of repose and food, you see the moon's silver rays glittering on the dews that have already clothed the tall

grass around you. Your footsteps, be they ever so light, strike the ear of the watchful Killdeer, who, with a velocity scarcely surpassed by that of any other bird, comes up, and is now passing and repassing swiftly around you. His clear notes indicate his alarm, and seem



NEST AND EGGS OF KILLDEER

to demand why you are there. To see him now is impossible, for a cloud has shrouded the moon; but on your left and right, before and behind, his continued vociferations intimate how glad he would be to see you depart from his beloved hunting-grounds. Nay, be not surprised if he should follow you until his eyes, meeting the glaring light of a woodsman traveler, he will wheel off and bid you adieu."

Having become acquainted with the Killdeer and its homelife, let us for a moment consider the relations of this bird to mankind. Unfortunately, it belongs to the class known as game-birds, but it is only so in name, for, owing to the small size of its body, it is worthless for food purposes. The appearance of the bird while in flight is very deceptive, its long wings making it appear much larger than it really is. Its home is on the ground, and all of its food is obtained there and consists very largely of insects that are extremely destructive, such as grasshoppers, crickets and coleoptera, including the boll-weevil, which is now doing such great damage in the

The Killdeer

cotton-growing districts. It is also especially effective in holding in check the Rocky Mountain locust, having received special mention in the government report on that destructive insect.

In Bulletin No. 25, United States Department of Agriculture, the government expert, Arthur H. Howell, says: "The Killdeer frequents plowed fields, often in large numbers, and the destruction of weevils at the period of spring plowing is a highly important service."

We find that the Killdeer is of great value æsthetically by reason of its beauty and interesting personality; it is of extreme value economically because it destroys enormous numbers of insects, two kinds of which are costing the agriculturists of the country millions of dollars annually; it is practically worthless for food owing to its small size, and no self-respecting sportsman ever shoots one. Let me quote from a quaint old volume published in 1848 by that prince of sportsmen, Frank Forester, who, at the end of his chapter on the Plovers, adds these few words: "In addition to these we have the well-known, common and beautiful variety, the Killdeer Plover, so named from its peculiar cry, which it is both cruel and useless to kill, as it is too insignificant to be regarded as game." Let the public give the Killdeer the appreciation and protection it richly deserves.

Questions for Teachers and Students

How are feet of Plover different from those of other birds? Is the Killdeer found in your locality? At what season of the year? What is meaning of pyriform? What is a clutch? What is the meaning of incubation? What is the meaning of simulate? What are coleoptera? Describe the boll-weevil and its transformation. In what way is it destructive to cotton? Describe the Rocky Mountain locust and the damage it does. Use available questions in previous leaflets. Read excellent papers on the Killdeer in *BIRD-LORE*, Vol. I, page 35 and Vol. II, page 148; also "How to Study Birds," Vol. V, page 89.

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The Blue Jay

By WILLIAM DUTCHER

President of the National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 22

"And startle from his ashen spray,
Across the glen, the screaming Jay."

It certainly is a tyro in bird study who does not know this noisy braggart fellow with his inquisitive ways. Such characteristics usually repel, but in the case of the Blue Jay they rather attract, and no one can help admiring this conspicuous member of the Corvine family. He has all the cunning of his somber-hued cousins the Crows, but not their sedateness; he is life and activity personified.

Another member of this family, the Magpie, attracted the notice of both Aristotle and Pliny, the former of whom says, "the Pica oftentimes changes its notes, for almost every day it utters different cries. When acorns grow scarce, it gathers them and keeps them hidden in store." The first statement refers undoubtedly to the power that the Magpies and Jays have of imitating the notes of other birds. The habit of storing food is also practiced by the American members of the family.

Pliny says, "not only do they learn, but they delight to talk, and, meditating carefully and thoughtfully within themselves, hide not their earnestness. They are known to have died when overcome by difficulty in a word, and, should they not hear the same things constantly, to have failed in their memory, and while recalling them to be cheered up in wondrous wise, if meanwhile they have heard that word. Nor is their beauty of an ordinary sort, though not considerable to the eye; for them it is enough honour to have a kind of human speech. However people deny that others are able to learn, save those belonging to the group which lives on acorns—and of these again those with the greatest ease which have five toes upon each of their feet; nor even they except during the first two years of life."

These two curious and interesting bits of ancient natural history show conclusively that the present interest in nature is by no means new.

Audubon, although he admired the beauty of the Blue Jay, did not give him a good reputation as the following pen picture shows: "Reader, look at the plate on which are represented three individuals of this beautiful species, —rogues though they be, and thieves, as I would call them, were it fit for me to pass judgment on their actions. See how each is enjoying the fruits of his knavery, sucking the egg which he has pilfered from the nest of some innocent Dove or harmless Partridge. Who could imagine that a form so

graceful, arrayed by Nature in a garb so resplendent, should harbour so much mischief;—that selfishness, duplicity and malice should form the moral accompaniments of so much physical perfection! Yet so it is, and how like beings of a much higher order, are these gay deceivers. Aye, I could write you a whole chapter on this subject, were not my task of a different nature.”

Alexander Wilson esteemed the Blue Jay a frivolous fellow: “This elegant bird is distinguished as a kind of beau among the feathered tenants of our woods, by the brilliancy of his dress; and, like most other coxcombs, makes himself still more conspicuous by his loquacity, and the oddness of his tones and gestures. In the charming season of spring, when every thicket pours forth harmony, the part performed by the Jay always catches the ear. He appears to be, among his fellow-musicians, what the trumpeter is in a band, some of his notes having no distant resemblance to the tones of that instrument. These he has the faculty of changing through a great variety of modulations, according to the particular humor he happens to be in. When disposed for ridicule, there is scarce a bird whose peculiarities of song he cannot tune his notes to. When engaged in the blandishments of love they resemble the soft chatterings of a Duck; and, while he nestles among the thick branches of the cedar, are scarce heard at a few paces distance; but no sooner does he discover your approach than he sets up a sudden and vehement outcry, flying off, and screaming with all his might, as if he called the whole feathered tribes of the neighborhood to witness some outrageous usage he had received. When he hops undisturbed among the high branches of the oak and hickory, they become soft and musical; and his call of the female, a stranger would readily mistake for the repeated creakings of an ungreased wheelbarrow. All these he accompanies with various nods, jerks and other gesticulations, for which the whole tribe of Jays is so remarkable, that, with some other peculiarities, they might have very well justified the great Swedish naturalist* in forming them into a separate genus by themselves.”

Of the more modern writers on the life-history of the Blue Jay, the late Major Bendire says: “Few of our native birds compare in beauty of plumage and general bearing with the Blue Jay, and, while one cannot help admiring him on account of amusing and interesting traits, still even his best friends cannot say much in his favor, and, though I have never caught one actually in mischief, so many close observers have done so, that one cannot very well, even if so inclined, disprove the principal charge brought against this handsome freebooter.”

It is an unfortunate fact that if a bad name is attached to a person or a bird it is hard work to live it down, even though the bearer has been condemned on hearsay evidence. The story of guilt may have been started on

* Carl von Linne = Linnaeus, born May 24, 1707, at Rashult, Sweden.

the most trivial evidence, but every time it is repeated it gains in strength and is soon magnified into huge proportions; and what might have been easily explained at the outset, by a careful examination into the facts, casts a life-long slur on the character of an innocent victim. Even so careful and exact a writer as the late Major Bendire is compelled to add, from his strict sense of justice, that he had "never caught a Blue Jay in mischief." The writer's experience with this bird is exactly parallel with that of Major Bendire, and he is therefore loth to believe all the bad stories that have been printed about the noisy, handsome Jay. In every village there is some boy who is not bad at heart, but is so full of animal spirits and life that whenever an act of harmless mischief is perpetrated it is immediately charged to him. This is very much the case with the Jay, "whose obtrusive actions attract attention when other birds, equally abundant, remain unnoticed."

Probably the most accurate brief respecting the Blue Jay's feeding habits that has ever been written is by Mr. F. E. L. Beal.* A few extracts will show that much that has been written will not bear the scrutiny of exact scientific research. After citing three cases of field observers who saw Blue Jays in the act of sucking eggs or taking young birds, Mr. Beal adds: "In view of such explicit testimony from observers whose accuracy cannot be impeached, special pains have been taken to ascertain how far the charges were sustained by a study of the bird's food. An examination was made of 292 stomachs collected in every month of the year, from 22 states, the district of Columbia, and Canada. The real food is composed of 24.3 per cent of animal matter and 75.7 per cent of vegetable matter. The animal food is chiefly made up of insects, with a few spiders, myriapods, snails and small vertebrates, such as fish, salamanders, tree-frogs, mice and birds. Everything was carefully examined which might by any possibility indicate that birds or eggs had been eaten, but remains of birds were found only in two, and the shells of small bird's eggs in three of the 292 stomachs. One of these, taken on February 10, contained the bones, claws and a little skin of a bird's foot. Another, taken on June 24, contained remains of a young bird. The three stomachs with birds' eggs were collected in June, August and October. The shell eaten in October belonged to the egg of some larger bird like the Ruffed Grouse, and, considering the time of the year, was undoubtedly merely an empty shell from an old nest. Shells of eggs which were identified as those of domestic fowls, or some bird of equal size, were found in 11 stomachs collected at irregular times during the year. This evidence would seem to show that more eggs of domestic fowls than of wild birds are destroyed, but it is much more probable that these shells were obtained from refuse heaps about farmhouses.†

To reconcile such contradictory evidence is certainly difficult, but it

* The Blue Jay and its Food. By F. E. L. Beal, Assistant Biologist, United States Department of Agriculture. (A valuable and interesting pamphlet for free distribution.)

† The writer knows of a case where Blue Jays are frequent visitors to a garbage vessel close by a kitchen door, even in summer, when other food is abundant.

seems evident that these nest-robbing propensities are not so general as has been heretofore supposed. If this habit were as prevalent as some writers have asserted, and if it were true that eggs and young of smaller birds constitute the chief food of the Blue Jay during the breeding season, the small birds of any section where Jays are fairly abundant would be in danger of extermination. Insects are eaten in every month in the year. The great bulk consists of beetles, grasshoppers and caterpillars. The average for the year is 23 per cent, but in August it reaches 66 per cent. Three-fourths of the Blue Jay's food consists of vegetable matter, 42 per cent of which consists of "mast," under which are grouped large seeds of trees and shrubs, such as acorns, chestnuts, beechnuts, chinquapins, and some others. Blue Jays prefer mast to corn, or indeed any other vegetable food, for they eat the greatest amount at a time when fruit, grain and other things are most abundant. The Blue Jay gathers its fruit from Nature's orchard and vineyard, and not from man's; corn is the only vegetable food for which the farmer suffers any loss, and here the damage is small. In fact, the examination of nearly 300 stomachs shows that the Blue Jay certainly does far more good than harm."

The Blue Jay has an extensive range, being found in eastern North America as far north as latitude 52, and, casually, a little further; it extends westward to about 100 west longitude, in Assiniboia, and south to about 97 west longitude in northern Texas. It breeds throughout its range, but in winter most northern birds move southward. In Florida, and along the Gulf coast to southeastern Texas there is a slightly smaller race, but the ordinary observer will not be able to note any difference. The nesting places vary very greatly as to kind of trees selected and position in the tree. Sites may be found in conifers and also in deciduous trees, and even in shrubbery. The nest is usually bulky, but compactly built of twigs, bark, moss, leaves and various other materials. A set of eggs varies from 4 to 6; the color is greenish or buffy, irregularly spotted with shades of brown or lavender.

As parents, Blue Jays are patterns. Whatever may be their reputation regarding the young of other birds, there is no question regarding their extreme solicitude for their own offspring.*

Do not form your opinion about the Blue Jay from printed stories, but study this fascinating fellow for yourself and you will surely be captivated by his drollery and intelligence. There is certainly no more picturesque sight in bird life than to see a flock of Jays in the fall of the year flying with outspread tails, from one nut tree to another, screaming and calling to each other at the tops of their voices, or darting here and there among the gorgeously tinted foliage.

Questions for Teachers and Students

Is the Blue Jay found in your locality during the entire year? If not, when does it arrive? When does it leave in the fall? Give your opinion of the habits of the Blue Jay—this must be the results of your own observations of the live bird. How many different kinds of trees have you found Blue Jays nesting in? Give location of each nest and materials used in construction. Tell what you have personally observed about the food of Blue Jays. Who was Linnæus? What made him famous?

* Read about Blue Jay life in 'A Bird-Lover in the West,' by Olive Thorne Miller.

The Rose-breasted Grosbeak

By WILLIAM DUTCHER

President of the National Association of Audubon Societies

National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 20

After a long period of winter weather, with its bare and brown or snow-covered fields, its frozen streams, and its leafless trees, how the lover of out-of-doors watches for the first indication of the coming of spring! The vitality that has been dormant, but is commencing to awaken with the lengthening of the days, and the increasing power of the sun is watched with daily growing interest. Every new shade of green that the grassy carpet of the earth assumes is a delight, the first dandelion blossom that shows itself on the lawn is a thing of beauty, the opening of the arbutus and the modest violet increases our joy, the arrival of the advance guard of winged hosts that we know will soon follow, thrills us with pleasure and a desire for the culmination, when every tree in orchard or forest is bursting forth with blossom and leaf and every place is vocal with music. Then it is, some morning early in May, we are greeted with a glory of song and the flashing beauty of the Rose-breasted Grosbeak. During the winter months it has lived in the tropical regions of the West Indies, Mexico, Central America and northern South America; but with spring comes the longing for home, and it journeys, by night, through the trackless sky to its birthplace. This is anywhere in eastern United States and the more southern British provinces, from the Atlantic coast to eastern Kansas and Manitoba. During its semi-annual migrations it passes through the gulf states. One of the most wonderful and interesting subjects in Nature is migration. The cause of the migration of birds is still a puzzle to scientists, and, although theories have been advanced from time to time by learned students, yet none have been universally accepted. The changing seasons, from heat to cold, has been suggested as a cause; the lack of food as another. The latter cause might well explain the necessity for the southward movement of birds in the autumn, but it hardly seems a reason for the return of the birds in the spring from tropical countries where Nature is prolific with plant and insect-life. The most attractive theory is that birds return to their breeding-places from a passionate fondness for home, which even the dangers and fatigue of a long journey cannot overcome. Setting aside the reasons for migration, let us consider for a moment migration itself, and the more we think of it the more wonderful it seems. Take, for instance, the Rose-breasted Grosbeak, that has spent the winter in Colombia. How

does it know when to start for its home in the temperate clime where its offspring were reared the previous year? Can it calculate the days and hours that it will take to accomplish the distance? How can it retrace the path traversed the previous autumn? It reaches its old home about the same date each year, having traveled thousands of miles to do so. Most of this journey was made in the night, sometimes at an altitude of many thousand feet. The vision of all birds is very acute, and the Grosbeak may fly from one landmark to another, which, when it is reached, may disclose still another in the distance, and so on until home is reached. These journeys are not continuous; during the daytime the traveler descends to the earth for rest and food and at night resumes its journey again. During the height of the migratory period, the upper air must be filled with thousands of feathered wanderers, who are sometimes met by storms or thick weather when all landmarks must be blotted out. It is known that they then fly at a much lower altitude, for on such occasions they are attracted by light-houses, and thousands of birds of numerous species are killed by flying against the glass of the lantern. This wonderful phenomenon of Nature, migration, is well worth extended study, and the scholar is advised to read the exhaustive treatment of the subject by Prof. Alfred Newton* and Mr. W. W. Cooke.†

The Rose-breasted Grosbeak selects as its home, most frequently, second growths of oaks on the borders of large timber, but does not confine itself exclusively to such localities. It builds a rather bulky nest of weed-stalks, twigs, rootlets, etc., in bushes or trees from five to twenty feet from the ground. The eggs are usually four in number, of a pale green color profusely speckled with brown.

The song of this bird is the theme of every nature-writer, and all unite in pronouncing it of the highest type. In some respects it resembles that of the Robin, but it is thought to have a more refined and musical quality. The description of the song of the Rose-breasted Grosbeak by Audubon is such a delightful exhibition of the character of the man, showing so perfectly his childlike faith in a Creator, and his absolute absorption in the beauties of Nature, that the passage is given in full:

"One year, in the month of August, I was trudging along the shores of the Mohawk River, when night overtook me. Being little acquainted with that part of the country, I resolved to camp where I was. The evening was calm and beautiful, the sky sparkled with stars, which were reflected by the smooth waters, and the deep shade of the rocks and trees of the opposite shore fell on the bosom of the stream, while gently from afar came on the ear the muttering sound of the cataract. My little fire was soon

* 'Dictionary of Birds,' Part 2, pages 547-572, London, 1893.

† 'Report on Bird Migration in the Mississippi Valley' in Bull'n. No. 2, United States Department of Agriculture. Division of Economic Ornithology, Washington, 1888.

lighted under a rock, and, spreading out my scanty stock of provisions, I reclined on my grassy couch. As I looked around on the fading features of the beautiful landscape, my heart turned toward my distant home, where my friends were doubtless wishing me, as I wished them, a happy night and peaceful slumbers. Then were heard the barkings of the watchdog, and I tapped my faithful companion to prevent his answering them. The thoughts of my worldly mission then came over my mind, and having thanked the Creator of all for His never-failing mercy, I closed my eyes, and was passing away into the world of dreaming existence, when suddenly there burst on my soul the serenade of the Rose-breasted bird, so rich, so mellow, so loud in the stillness of the night, that sleep fled from my eyelids. Never did I enjoy music more: it thrilled through my heart, and surrounded me with an atmosphere of bliss. One might easily have imagined that even the Owl, charmed by such delightful music, remained reverently silent. Long after the sounds ceased did I enjoy them, and when all had again become still, I stretched out my wearied limbs, and gave myself up to the luxury of repose."

With this delightful tribute of the artist-naturalist to the esthetic qualities of this bird, let us turn to its practical or economic value.

The Colorado potato-beetle dwelt near the base of the Rocky Mountains, feeding upon the sand-bur until about the year 1859. At this time it began to be a pest in the potato-fields of the settlers in that region. Having acquired the habit of feeding upon the cultivated potato, it began its eastward march across the continent, spreading from potato-patch to potato-patch. At first the migration took place at about the rate of fifty miles a year, but later it was more rapid; and in 1874 the insect reached the Atlantic coast (Comstock, 'Study of Insects').

The spread of the potato-beetle pest caused an enormous loss to the farmers of the country, not only by the failure of the potato crops, but also by the cost of insecticides, principally Paris green, used to destroy this voracious beetle. It is doubtful whether the farmers of the country would have been able to successfully contend with the potato-beetle had not Nature interposed one of her powerful checks. As the beetle extended its range and became more numerous, the Rose-breasted Grosbeak developed a newly acquired taste for this pest. Professor Beal, of the United States Department of Agriculture, has furnished the following very interesting statement, which shows conclusively the very great value of this bird:

"No stomachs of the Rose-breasted Grosbeak have yet been examined by the Biological Survey, but the bird's habit of eating the Colorado potato-beetle is a matter of common observation. The first published report upon this work was made, as far as I know, by Prof. C. E. Bessey, of the Agricultural College of Iowa, more than twenty-five years ago, when the insect first made its appearance. At about the same time a woman writer in

'Forest and Stream' noted the same habit. A few years later I made some interesting observations in a small field of potatoes near my house. No remedial measures were applied to the crop, but both beetles and birds were given a fair field and no favors. At first the insects increased in numbers in spite of the daily visits of the birds, but when the young of the latter were hatched, the numbers of the beetles began to diminish rapidly, and when the young birds were fledged and were brought by their parents and placed in a row upon the fence around the field, the insects rapidly disappeared, and when I examined the field a week later I could not find a single beetle, either young or adult. About this time the birds began to prey upon some peas in my garden, and I shot one of them and examined the contents of its stomach. It consisted of one large green caterpillar (*Sphingidæ*), several potato beetles, and a few fragments of peas. My conclusion was that the few peas taken had been well paid for. However, I hung an old coat on a pole near the pea vines, and the birds came near them no more. All of the above observations were made in the state of Iowa, which was one of the first states to suffer from the attacks of the beetles on their eastward march.

Since then this habit of the Grosbeak has been confirmed by thousands of observers in all parts of the country where the potato-beetle and the bird are found. As this insect is eaten by but few species of birds, it is especially desirable that this one, that eats it so freely, should be preserved and its increase be encouraged in every possible manner. Forty years ago this bird was rare in New England,—in fact, was entirely unknown in many places, but it is now fairly abundant there, and it may be that it has been attracted to that section of the country by the presence of the potato-beetles, which furnish so large a portion of its food. I believe it is possible to prevent its depredations upon peas (the only harm that I have ever heard it accused of), and its value as an insect-destroyer forbids its wanton destruction."

Questions for Teachers and Students

What is the local name of the Rose-breasted Grosbeak in your locality? Describe or imitate its song. What is its alarm or call-note? Can you identify the Rose-breasted Grosbeak, Robin and Scarlet Tanager by their songs if the birds are not seen? How do the songs of the three birds differ? What is the peculiarity of the bill of the Rose-breasted Grosbeak? How does it differ from the bill of the Robin? Compare size and shape of these two birds. Describe nest of Rose-breasted Grosbeak, materials, size, height from ground, location, in bush or tree, kind of tree. Is it saddled or pendent? Trace winter and summer habitat on map. Tell what you know of migration. When does the Rose-breasted Grosbeak arrive in your locality in spring? When does it leave? Describe its food. Make drawings of Colorado beetle in adult and larval form. Does this beetle destroy the fruit or plant? What other food does the Grosbeak eat, insect and vegetable? In what locations have you found the Grosbeak? What is an insecticide? Describe the arbutus; where is it found? When? How many species of violets are found in your locality?

THE BLUEBIRD

By MABEL OSGOOD WRIGHT

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 24

Who dares write of the Bluebird, thinking to add a fresher tint to his plumage, a new tone to his melodious voice, or a word of praise to his gentle life, that is as much a part of our human heritage and blended with our memories as any other attribute of home?

Not I, surely, for I know him too well and each year feel myself more spellbound and mute by the memories he awakens. Yet I would repeat his brief biography, lest there be any who, being absorbed by living inward, have not yet looked outward and upward to this poet of the sky and earth and the fullness and goodness thereof.

The Bluebird's Country For the Bluebird was the first of all poets,—even before man had blazed a trail in the wilderness or set up the sign of his habitation and tamed his thoughts to wear harness and travel to measure. And so he came to inherit the earth before man, and this, our country, is all The Bluebird's Country, for at some time of the year he roves about it from the Atlantic to the Pacific and from Mexico to Nova Scotia, though westward, after he passes the range of the Rocky Mountains, he wears a different dress and bears other longer names.

The Bluebird's Travels In spite of the fact that our eastern Bluebird is a home-body, loving his nesting haunt and returning to it year after year, he is an adventurous traveler. Ranging all over the eastern United States at some time in the season, this bird has its nesting haunts at the very edge of the Gulf States and upward, as far north as Manitoba and Nova Scotia.

When the breeding season is over, the birds travel sometimes in family groups and sometimes in large flocks, moving southward little by little, according to season and food-supply, some journeying as far as Mexico, others lingering through the middle and southern states. The Bluebirds that live in our orchards in summer are very unlikely to be those that we see in the same place in winter days. Next to the breeding impulse, the migrating instinct seems to be the strongest factor in bird life. When the life of the home is over, Nature whispers, "To wing, up and on!" So a few of the Bluebirds who have nested in Massachusetts may be those who linger in New Jersey, while those whose breeding haunts were in Nova Scotia drift downward to fill their places in Massachusetts. But the great mass of even those birds we call winter residents go to the more southern parts of

their range every winter, those who do not being but a handful in comparison.

"What does this great downward journey of autumn mean?" you ask. What is the necessity for migration among a class of birds that are able to find food in fully half of their annual range? Why do birds seek extremes for nesting sites? This is a question about which the wise men have many theories, but they are still groping. One theory is that once the whole country had a more even climate and that many species of birds lived all the year in places that are now unsuitable for a permanent residence. Therefore, the home instinct being so strong, though they were driven from their nesting sites by scarcity of food and stress of weather, their instinct led them back as soon as the return of spring made it possible.

Thus the hereditary love of the place where they were given life may underlie the great subject of migration in general and that of the Bluebird's home in particular.

The Bluebird at Home

Before more than the first notes of the spring song have sounded in the distance, Bluebirds are to be seen by twos and threes about the edge of old orchards along open roads, where the skirting trees have crumbled or decaying knot-holes have left tempting nooks for the tree-trunk birds, with whom the Bluebird may be classed. For, though he takes kindly to a bird-box, or a convenient hole in fence-post, telegraph pole or outbuilding, a tree hole must have been his first home and consequently he has a strong feeling in its favor.

As with many other species of migrant birds, the male is the first to arrive; and he does not seem to be particularly interested in house-hunting until the arrival of the female, when the courtship begins without delay, and the delicate purling song with the refrain, "Dear, dear, think of it, think of it," and the low, two-syllabled answer of the female is heard in every orchard. The building of the nest is not an important function, — merely the gathering of a few wisps and straws, with some chance feathers for lining. It seems to be shared by both parents, as are the duties of hatching and feeding the young. The eggs vary in number, six being the maximum, and they are not especially attractive, being of so pale a blue that it is better to call them bluish white. Two broods are usually raised each year, though three are said to be not uncommon; for Bluebirds are active during a long season, and, while the first nest is made before the middle of April, last year a brood left the box over my rose arbor September 12, though I do not know whether this was a belated or a prolonged family arrangement.

As parents the Bluebirds are tireless, both in supplying the nest with insect food and attending to its sanitation; the wastage being taken away and dropped at a distance from the nest at almost unbelievably short intervals, proving the wonderful rapidity of digestion and the immense amount of labor required to supply the mill inside the little speckled throats with grist.

The young Bluebirds are spotted thickly on throat and back, after the manner of the throat of their cousin, the Robin; or, rather, the back feathers are spotted, the breast feathers having dusky edges, giving a speckled effect.

The study of the graduations of plumage of almost any brightly colored male bird from its first clothing until the perfectly matured feather of its breeding season, is, in itself, a science and a subject about which there are many theories and differences of opinion by equally distinguished men.

The Food of the Bluebird The food of the nestling Bluebird is insectivorous, or, rather, to be more exact, I should say animal; but the adult birds vary their diet at all seasons by eating berries and small fruits. In autumn and early winter, cedar and honeysuckle berries, the grape-like cluster of fruit of the poison ivy, bittersweet and catbrier berries are all consumed according to their needs.

Professor Beal, of the Department of Agriculture, writes, after a prolonged study, that 76 per cent of the Bluebird's food "consists of insects and their allies, while the other 24 per cent is made up of various vegetable substances, found mostly in stomachs taken in winter. Beetles constitute 28 per cent of the whole food, grasshoppers 22, caterpillars 11, and various insects, including quite a number of spiders, comprise the remainder of the insect diet. All these are more or less harmful, except a few predaceous beetles, which amount to 8 per cent, but in view of the large consumption of grasshoppers and caterpillars, we can at least condone this offense, if such it may be called. The destruction of grasshoppers is very noticeable in the months of August and September, when these insects form more than 60 per cent of the diet."

It is not easy to tempt Bluebirds to an artificial feeding-place, such as I keep supplied with food for Juncos, Chickadees, Woodpeckers, Nuthatches, Jays, etc.; though in winter they will eat dried currants and make their own selection from mill sweepings if scattered about the trees of their haunts. For, above all things, the Bluebird, though friendly and seeking the borderland between the wild and the tame, never becomes familiar, and never does he lose the half-remote individuality that is one of his great charms. Though he lives with us and gives no sign of pride of birth or race, he is not of us, as the Song Sparrow, Chippy or even the easily alarmed Robin. The poet's mantle envelops him even as the apple-blossoms throw a rosy mist about his doorway, and it is best so.

THE BLUEBIRDS

1. EASTERN BLUEBIRD (*Sialia sialis*)

Adult male.—Length 7 inches. Upper parts, wings and tail bright blue; breast and sides rusty, reddish brown, belly white. *Adult female*.—Similar to the male, but upper parts, except the upper tail coverts, duller, gray or brownish blue, the breast and sides

paler. *Nestling*.—Wings and tail essentially like those of adult, upper parts dark sooty brown, the back spotted with whitish; below, whitish, but the feathers of the breast and sides widely margined with brown, producing a spotted appearance. This plumage is soon followed by the fall or winter plumage, in which the blue feathers of the back are fringed with rusty, and young and old birds are then alike in color.

Range.—Eastern United States west to the Rocky Mountains; nests from the Gulf States to Manitoba and Nova Scotia; winters from southern New England southward.

1a. AZURE BLUEBIRD (*Sialia sialis azurea*)

Similar to the Eastern Bluebird, but breast paler, upper parts lighter, more cerulean blue.

Range.—Mountains of eastern Mexico north to southern Arizona.

2. WESTERN BLUEBIRD (*Sialia mexicana occidentalis*)

Adult male.—Above deep blue, the foreback in part chestnut; throat blue, breast and sides chestnut, the belly bluish grayish. *Adult female*.—Above grayish blue, chestnut of back faintly indicated, throat grayish blue, breast rusty, paler than in male, belly grayish.

Range.—Pacific coast region from northern Lower California north to British Columbia, east to Nevada.

2a. CHESTNUT-BACKED BLUEBIRD (*Sialia mexicana bairdi*)

Similar to the Western Bluebird, but foreback wholly chestnut. (See plate.)

Range.—Rocky Mountain region from Mexico north to Wyoming.

2b. SAN PEDRO BLUEBIRD (*Sialia mexicana anabelæ*)

Similar to the Western Bluebird, but back with less chestnut.

Range.—San Pedro Martir mountains, Lower California.

3. MOUNTAIN BLUEBIRD (*Sialia arctica*)

Adult male.—Almost wholly blue, above beautiful cerulean, below paler, belly whitish. *Adult female*.—Above brownish gray, upper tail coverts, wings and tail bluish, below pale fawn, belly whitish.

Range.—Western United States from Rocky Mountains to Sierras, and from New Mexico north to the Great Slave Lake region.

Questions for Teachers and Students

How many kinds of Bluebirds are there? Trace their distribution on the map. How do they differ from one another? How far north does the Eastern Bluebird remain in winter? Are the Bluebirds we see in winter the same individuals that spend the summer with us? When do the Bluebirds begin to migrate northward? Do they travel singly or in flocks? Which sex comes first? When do the Bluebirds begin to nest? Where do they place their nests? Of what is the nest composed? Do both male and female build? How many eggs are laid? What color are they? Do Bluebirds raise more than one family in a season? What does the Bluebird look like when he leaves the nest? What do Bluebirds eat?

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